The Journal

OF THE

AMERICAN ASSOCIATION OF NURSE ANESTHETISTS

MAY 1946

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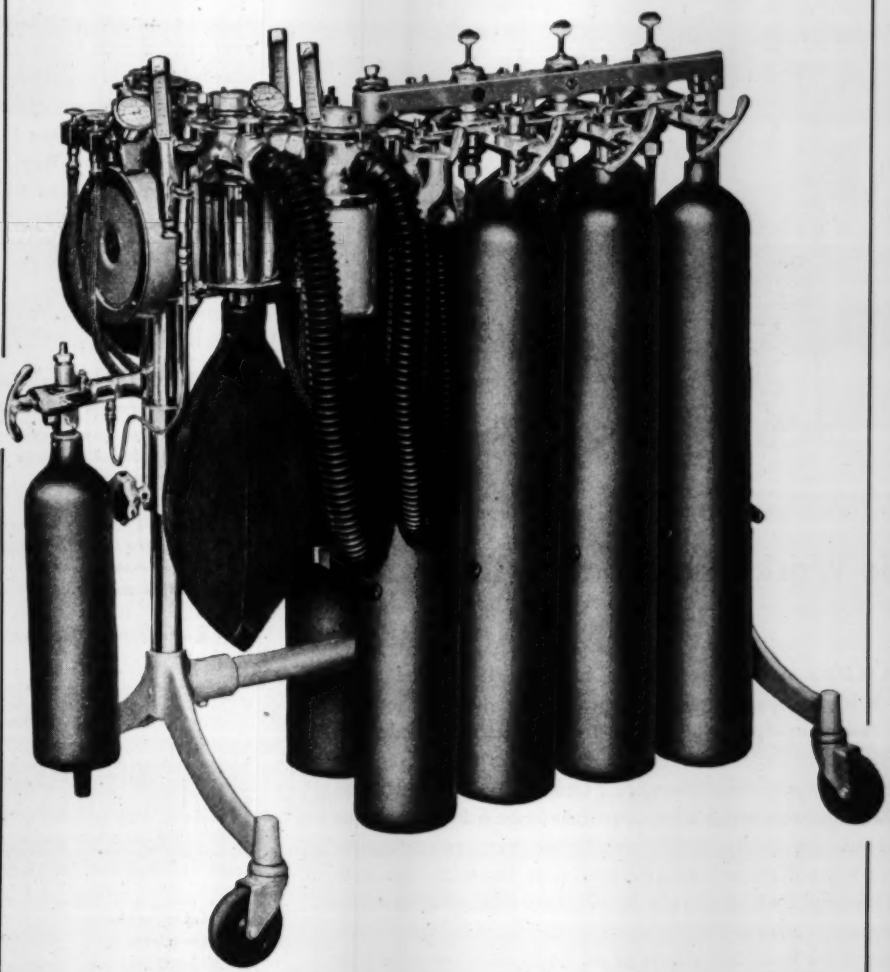

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BEAUTY IN THE NATION'S CAPITAL: Wreathed in Washington's Cherry blossoms, this SPAR is enjoying nature's Springtime beauty. (Photograph, courtesy of the U. S. Coast Guard.)

Administration of an Anesthesia Department

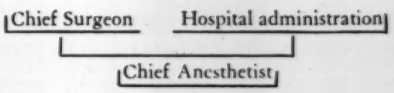
GERTRUDE L. FIFE
University Hospitals of Cleveland
Cleveland, Ohio

The management of an anesthesia department entails much more than merely seeing to it that an anesthetist is available to give an anesthetic when an operation is to be performed. To the head of the anesthesia department is assigned the responsibility of making sure that all phases of the work of the department are properly correlated and that the department functions smoothly as a unit of service in the hospital.

In order to manage a department efficiently, the chief anesthetist must know exactly what is expected of her and her staff; to whom she is responsible; and the amount of authority delegated to her. Hospitals vary in their approach to this problem, largely because hospitals differ in the type and amount of service they are organized to give to the public.

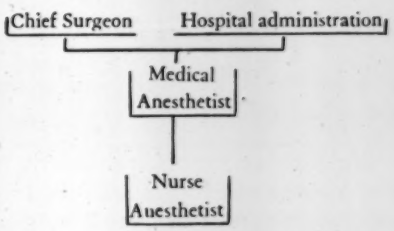
We shall first discuss the paths of authority found in some institutions:

A. The chief anesthetist (as shown by Graph No. 1) is directly responsible to the chief surgeon in regard to all professional problems; and to the hospital administration for decisions relative to purchases, salaries of anesthetists, et cetera.



(Graph No. 1)

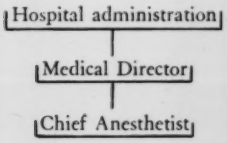
B. The chief anesthetist, as shown by Graph No. 2, is directly responsible to the medical anesthetist, who, in turn, is responsible to the chief surgeon in regard to professional problems and to the hospital administration for all decisions relative to purchase of supplies and equipment, staff salaries, et cetera.



(Graph No. 2)

Read at the October, 1945, Institute for Instructors of Anesthesiology, Chicago, sponsored by the American Association of Nurse Anesthetists.

C. As shown by Graph No. 3, the chief anesthetist is directly under the medical director, who is responsible to the administration for all activities of the anesthesia department.



(Graph No. 3)

It is not our purpose to condemn any one of the above arrangements, or to say that one of these arrangements is far superior to the others. The only comment I would like to make in this connection is that any of the above arrangements is a protection to the nurse anesthetist because, obviously, as nurses, we must have a doctor responsible for the professional activities of the department. The doctor need not necessarily be a medical anesthetist. Occasionally, we find in the more loosely organized department that the nurse anesthetist is directly responsible to the superintendent of nurses. This arrangement is not satisfactory because, obviously, the superintendent of nurses knows little about the work, is not particularly interested in it, and consequently, is not in a position to make decisions in this specialized field.

We occasionally find, particularly in the hospital employing only two or three anesthetists, that there is no delegated head of the department; in other words, each of the anesthetists has the same standing and, as a result, each is directly under the superintendent of the hospital. I do not believe that this is a good arrangement; regardless of the number of anesthetists employed (unless, of course, there is only one), one of the nurse anesthetists should be primarily responsible for the smooth running of the department.

What are the responsibilities of the chief anesthetist?

1. The chief anesthetist should have a voice in the selection of personnel and an opportunity to check the qualifications of applicants. She should know the prevailing rate of salaries and make recommendations in regard to adjustment of salaries of staff members.
2. Daily assignment of duties and of cases, including twenty-four-hour anesthesia service to the institution.
3. Exercise of constant care to minimize explosion hazards.
4. Supervision of the keeping of anesthesia records — a very important part of the chief anesthetist's responsibilities.
5. Upkeep of equipment and purchase of supplies.
6. Oxygen therapy.
7. Furtherance of education of anesthesia personnel.

1. Appointment of personnel: The chief anesthetist should investigate thoroughly the qualifications of any applicant for a position as anesthetist on her staff. She should obtain the following information in regard to the applicant:

Age
Religion
Marital status and family responsibilities
Health
Character and attitude
Background of education
Experience since graduation
Letters of reference from former employers should be obtained before the indi-

vidual's application is passed upon.

The chief anesthetist should have a voice in the appointment of new personnel because she is in a position to know the type of person who will work agreeably with the other anesthetists. Her first interest, however, should be to make certain that the applicant is qualified to give the type and quality of anesthesia service required in that institution.

The number of anesthetists employed in any hospital will logically depend upon (1) the number of operations that can be performed at any one time during the scheduled operating hours of the day; (2) the average number of emergency operations performed after regular operating hours; and (3) the demands from the obstetrical service.

The question of salaries is just now somewhat in a state of uncertainty. During the war, many hard-pressed institutions have been offering unprecedentedly high salaries in a desperate effort to attract much-needed anesthetists. This has, of course, created dissatisfaction in other institutions and unsettled the minds of a number of anesthetists. In the postwar period, it will undoubtedly be necessary for anesthetists taking new positions to accept lower salaries than have been offered during the war years, but it will be some time before the situation resolves itself. The return of many anesthetists from Army and Navy service will be a definite factor in the relation of supply and demand and may further accentuate the progressive drop in the prevailing rate of salaries for anesthetists, as well as for other hospital personnel. The fact remains that the services of a competent and reliable anesthetist will continue to be highly appreciated by both hospital and surgeon and her concern need be only to continue to give a high quality of anesthesia service.

2. *Assignment of duties and daily assignment of cases:* If anesthesia service is to be available throughout the twenty-four hours of the day in an institution, the anesthetists' time on duty must be arranged in eight-hour shifts, or according to a rotating "on call" schedule. In my opinion, an eight-hour shift is not practical, except on a very active obstetrical service, where it is advisable to have one anesthetist available at all times for emergencies. In such active departments, supplementary service will be necessary occasionally; this can be arranged for by the rotating "on call" anesthetist from the general surgical division.

The anesthetist should be allowed to remain on one service sufficiently long to become thoroughly familiar with the problems of anesthesia and needs of the surgeons on that service, but should not be left in one department indefinitely, so that her field of interest and experience in administering anesthetics is narrowed. If the individuals in a department are allowed to devote themselves too exclusively to one special field, a definite problem may be created during times of vacation or illness. The organization of the anesthesia service should be flexible enough to take care of all such emergencies; this flexibility can be developed only by long-range planning in the assignment of cases.

After careful study of the needs of the combined anesthesia services, an arrangement should be made so that the anesthetists will not be obliged to give anesthetics continuously for hours, without interruption or a period of rest. Sitting in one position for a long period produces extreme muscular discomfort;

the taking of blood pressure every few minutes makes the ears sore; after a few hours, the finger tips tend to become less sensitive to the feel of the pulse; and the anesthetist may suffer great physical and mental exhaustion.

An anesthetist who has been in the surgery the greater part of the night, or whose rest has been broken repeatedly, is not physically or mentally capable of giving anesthetics the following morning. She is entitled to one and one-half days a week for relaxation and she should not be expected to spend that time recuperating from long hours of night work. I am frankly opposed to "counting hours" because of the nature of the work, but the demands on the anesthetist's time should be studied carefully in each institution and arrangements for twenty-four-hour coverage should be based on a definite knowledge of the requirements for service.

Maintenance of efficient and uninterrupted anesthesia service entails careful watch in regard to conditions which might impair the health of staff members. Unless the anesthetist is required to spend unusually long hours administering ether, she is subjected to no danger of inhaling large quantities of noxious vapors and gases. The nervous tension under which she works is probably the most important consideration in regard to the health problem. If the anesthetist shows signs of unusual fatigue or nervous irritability, a few days off duty taken early may save her from a serious breakdown. Most anesthetists are able to stand the emotional and nervous strain, day after day, without interruption other than the regular vacation period, but circumstances may arise in the operating room that profoundly affect the mental stability of the individual. Such occasions demand sympathy and understanding on the part of the supervising executive.

Because of night calls, most anesthetists are forced to live in the hospital and often do not obtain sufficient outdoor exercise and relaxation. For their protection an annual physical examination, including an x-ray of the chest, should be compulsory.

The anesthetist with an acute upper respiratory infection should not be allowed to report for duty, both to safeguard her own health and to protect the patient from an exposure which would increase the potential hazard of postoperative pneumonia.

3. Explosion Hazards: Constant vigilance on the part of the entire anesthesia staff should be maintained and a definite code of regulations rigidly adhered to, in order to prevent explosions in the operating room. Every anesthetist today handles explosive mixtures of anesthetics, and, aside from the insidious static spark which may develop in the operating room, there is added danger from electrical apparatus. Surgeons are not electrical engineers and sometimes are forgetful of this hazard. The mere fact that an explosion has never occurred in a certain hospital is no reason to believe that the danger is less real.

In 1930, the University Hospitals of Cleveland, realizing that the advice of an electrical engineer was necessary to the solution of this problem, employed a professor from Case School of Applied Science to make an exhaustive study under actual conditions in the operating room. This work was later followed up by Victor Phillips, consulting engineer of the hospital, who developed and proposed a "Code of Safeguards" against the explosion hazard from anesthetics. This was published in *The*

Modern Hospital, May, 1936. Later, as a result of this study, routine rules and regulations were adopted by the chief surgeon, the hospital administration, and Mr. Phillips. A set of these rules is posted in each operating-room corridor. The anesthetist is responsible for seeing that the rules are carried out and, if any questions arise, they are immediately referred to Mr. Phillips and the administration.

The members of the surgical staff have cooperated well because they realize that the subject has been studied by those who are familiar with the problems involved and also that such routine procedures have been instituted for their own protection and the protection of their patients.

The hospital administrator, in fulfillment of his responsibilities, should make certain that the operating-room personnel is aware of potential dangers and that no routine procedures exist violating fundamental principles of safety. Any rules and regulations which do not have the support of the administration are worthless and any institution which does not have adequate rules and regulations is not fulfilling its obligations to the public and to the members of its working staff.

4. Anesthesia records: A graphic chart should be provided for the anesthetist to be used for each anesthesia given. This chart should be incorporated as part of the patient's permanent hospital record, with space for the surgeon to enumerate the factors increasing operative risk. As corroborative evidence, this chart should contain a statement as to whether or not the general clinical and laboratory examinations have been made. The anesthetist should know the physician's findings and the condition of the patient before she begins to administer an anesthetic drug. The pulse, respiration, and blood pressure should be taken and recorded every five minutes; to an experienced anesthetist, this information yields a graphic picture of the patient's condition during anesthesia.

The anesthetist should also make postoperative observations. Space should be provided on the back of the chart for a record of the results of her follow-up investigation. A check on postoperative complications is of particular interest and the anesthetist's visits to the patient following operation furnish data in this regard.

In regard to any records kept by the anesthesia department, the question should be asked: "Can detailed information be obtained from other sources aside from this record?" The record room and the statistical department are the logical places for the compiling and filing of detailed information.

We have found it unnecessary to keep detailed information in regard to individual operations in the department of anesthesia because, if full and accurate information is desired, reference must be made to the original chart of the patient. As far as other records in the department are concerned, there should be a daily record of all anesthetics administered—the type of anesthetic, the duration of the anesthesia, and the name of the anesthetist. At the University Hospitals of Cleveland, a daily record is submitted to the accounting and statistical departments and a duplicate copy is kept in the operating room.

Information for the monthly report of the department of anesthesia is obtained from figures compiled from these daily reports to the statistical department. This has proved a satisfactory

arrangement and saves time for the director in the compilation of the report. The statistical department must have this information and work is duplicated if the anesthetist keeps an additional record of each case.

It is also necessary for the department of anesthesia to submit an annual report to the administration of the hospital covering all essential facts which will furnish a complete picture, year by year, of the progress of the department. This should include the total number of cases, total hours of anesthesia and analgesia, and, of course, a breakdown of the cost of the various drugs. One of the most important points is an analysis of the proportion of cases in which the various drugs are used.

The annual report also contains a record of the activity of the members of the staff in state and national organizations, meetings attended, offices held, and papers read.

A report of deaths on the operating table, regardless of causes, should be included. If a death occurs in the operating room, a report should be sent immediately to the administrator and the chief surgeon, and at the end of the year, these facts should be included in the annual report. It is desirable to have a complete record of the deaths attributable to anesthesia, or those recorded as of unknown cause, as well as any others which may have occurred in the operating room not definitely attributable to the administration of an anesthetic. These reports are essential for at least three reasons: (1) They insure a thorough investigation of the circumstances at a time when the details are fresh in the minds of those concerned. (2) The facts in regard to the case will be available in written form for future reference should there be trouble or litigation against the hospital. (3) In the preparation of such reports, an impartial review of all circumstances is made and, possibly, in this process, methods of avoiding recurrences of similar misfortunes may be suggested.

5. Equipment and Supplies: The fundamental principles of all gas machines for anesthesia are the same. Consequently, the equipment in all, except teaching hospitals, may be standardized. At the University Hospitals in Cleveland, all the more popular makes of gas machines are available because of the training school for anesthetists, but the equipment has been standardized on various floors insofar as possible. Standardization decreases the investment in accessory equipment.

For years, there was no particular reason for purchasing new gas machines because no outstanding improvements facilitating the administration of anesthetics had been added. When the circle respirator containing a soda lime canister was introduced, however, the older equipment became obsolete, for this could not be attached to the machines then in use. This feature made the purchase of new gas machines a necessity, because it offered the following advantages: (1) greater control of respiration during anesthesia; (2) elimination of the collection of explosive mixtures in the operating room surrounding the table (thus contributing to the reduction of explosion hazards); and (3) decrease of the rate of hourly consumption of gas, made possible by the complete rebreathing system. The best argument for the use of the new equipment is the elimination of the gases and vapors from the operating room. One explosion might cost the hospital many times the price of modern equipment.

A large hospital may have an investment of several thousands of dollars in anesthesia equipment, which must be kept in perfect working condition at all times. The cost of one gas machine ranges from $300 to $700 and the parts are correspondingly expensive. Responsibility for the maintenance of such equipment is one of the important duties of the chief anesthetist, with emphasis on the points of technic which prevent undue wear and tear on the machines. It is important, therefore, that anesthetists who are entrusted with this expensive apparatus should appreciate its full value in dollars and cents and should be made conscious of the cost of upkeep and repairs, in order to increase the efficiency of the whole department. Every hospital has at least one good mechanic in the maintenance department and the institution will save money if he familiarizes himself with the machines used for anesthesia, so that he can make minor repairs and replacements. The machines should be tested daily for leaks and all equipment must be kept scrupulously clean.

The anesthesia department should have a suitable place for storage of cylinders of gases delivered to the hospital, no matter what department is to use it, and the gases should also be requisitioned and supplied from this central source. If one department is responsible for the entire supply, a more careful check of the return of cylinders will be made and rental charges for cylinders can be eliminated, thus effecting a considerable saving for the hospital. Several years ago, each department in the University Hospitals was ordering its own supply and when the central supply room was established, it was discovered that empty cylinders had been left in some of the laboratories for several years. Since small quantities had been used, no new supply was needed and return of the cylinders was neglected. The hospital had been charged for the rental of these cylinders and costs had accumulated until they equaled, or even exceeded, the price of the cylinder.

A record of supplies purchased and their cost should be available, not only to the chief anesthetist, but to everyone in the department. In our department, an indexed card file is kept in which every article, date of purchase, date of delivery, and its price is recorded. One anesthetist is responsible for maintenance of the equipment and replenishment of supplies. At weekly meetings, any possible saving to the department is discussed and any facts pertinent to effecting an economy in supplies and equipment are emphasized. For example, such points of technic are discussed as the fact that the weight of the two or four ounces of water remaining in a breathing bag will cause leaks to develop in the bottom of the bag if left on the machine. Therefore, the bag is removed from the machine and placed on the anesthesia table when the apparatus is not in use.

All rubber parts should be replaced when leaks develop because the expense incurred through loss of expensive gases greatly exceeds the cost of replacing these parts, and further, explosive mixtures are freed in the operating room. If patching of rubber supplies is necessary it should be done properly; adhesive tape is not only unsightly, but suggests carelessness and inattention to essential details.

An exact record should be kept of the quantity of gases consumed each month and of the total number of hours of gas anesthesia in order that the hourly consumption may be computed. A record also should be made of the

quantity of ether used each month and the total number of instances in which it is administered. In one year, the cost of drugs in the University Hospitals was 10.91 per cent of the total cost of salaries and upkeep of equipment. To illustrate the value of a careful study of drug costs, it is interesting to note that, since 1933, the hourly consumption of nitrous oxide has been reduced 51 per cent. In 1944, in the surgical division, the average consumption of nitrous oxide per hour of anesthesia was sixteen gallons.

If the anesthetist makes a study of costs and realizes that the record of her department will be compared with that of others, she will think twice before she soaks a sponge with ether for the surgeon to use in removing adhesive tape, an act she should never be guilty of, in any event, from the standpoint of explosion hazard. She will also be much more alert in watching for leaks around the face mask, because these mean a loss of gas which will be revealed by the increased average consumption of gas. An anesthetist's technical skill and her knowledge of the physiologic requirements to produce and maintain anesthesia can be judged from the hourly consumption of gas. This also furnishes a criterion as to the safety of the operating room from explosion hazards. If the hourly consumption is beyond physiologic requirements, it means that the atmosphere of the operating room is saturated with gases and vapors while anesthetics are being administered.

6. *Oxygen Therapy:* Oxygen therapy service in all institutions has become extremely important and there is a great question as to whether the department of anesthesia should be responsible for it. In the smaller institution, it may be possible for the anesthetist to take charge of the oxygen therapy service, but in the larger institutions, anesthetists are too busy and the service is too heavy to be controlled properly by this department. One individual in the institution, preferably a physician, should take charge of this service as a definite responsibility; otherwise, the oxygen therapy service will be poorly managed and gas will be wasted.

In the University Hospitals, 1744 cylinders of oxygen were used in 1944 by the medical service. It can readily be seen that it would be utterly impossible for the department of anesthesia to take care of this service efficiently without increasing the anesthesia personnel. Therefore, an assistant to the director of medicine has charge of oxygen therapy; he in turn, appoints a resident whose job it is to see that the tents are properly set up and in working condition, that the soda lime is changed, and that the oxygen in the tent is tested. Thus, someone who knows the service is available at all times when oxygen is needed.

Oxygen cylinders for the medical service are set up in the gas room with a gauge attached and the cylinder is well anchored to a cart. This eliminates careless handling of gauges and cylinders by orderlies. The gauges are expensive and if dropped are costly to repair. When oxygen cylinders are on the cart, there is no danger that they will be dropped in transportation.

The expansion of oxygen therapy presents a definite possibility of great waste. Although one cylinder of oxygen is comparatively inexpensive, the total loss in a month may be considerable. To show that waste is not merely a theoretical consideration but an actuality, some facts from our own experience are pertinent. During the heavy season of oxygen therapy, cylinders are

returned to the gas room anywhere from 10 to 50 per cent filled. We occasionally send back to the medical service cylinders returned to the gas room with large quantities remaining in them. But, since we pipe oxygen and nitrous oxide to the main operating rooms from the gas room, any cylinder that is less than 20 per cent full is attached to the compression tank in the basement and used on the surgical service. As a result of this practice, oxygen used on the surgical service has been supplied by the oxygen returned from the medical service. If it were not possible to use the oxygen in this manner, the physician in charge of the oxygen service would, of course, insist that the cylinders be completely emptied. In an institution in which no one person is responsible for the oxygen service, there is reason to believe that a great quantity of gas already paid for, which could have been used in the hospital, would be returned to the commercial companies.

7. *Development of efficiency:* One of the most important duties of the chief anesthetist is to encourage the members of her staff to review and continually carry on their study of the properties and effects of anesthetic agents and other drugs used in connection with anesthesia, and to keep abreast of the latest developments in regard to new drugs and methods in the field. Regular meetings of the staff should be held and each member assigned certain current journals to review and present to the group abstracts of published articles of value.

Anesthetists should also be urged to take part in the activities of the state and national anesthetists' organizations by accepting appointments to serve on committees or as officers. The chief anesthetist should make every effort to see that as many members of her staff as possible are allowed to attend association meetings. At least one anesthetist in the department should attend the state and national conventions each year and time for such attendance should be allowed to her without loss of salary. Many institutions have adopted the policy of defraying part or all of the expense involved.

Opportunities should be pointed out to the anesthetists for study and research covering special phases of the work of anesthesia, which may be incorporated in a paper for submission to the Publishing Committee of the American Association of Nurse Anesthetists. The ability to write acceptable and instructive scientific papers can be developed only by constant practice, combined with study of standard books on the preparation of such articles. The anesthetist, in the process of developing her ability to transmit to others the results of her experience, will enrich her own life and make an invaluable contribution to her special group.

In conclusion: *What does the chief anesthetist expect from her staff?*

1. Promptness in reporting for duties assigned.
2. Loyalty and cheerful cooperation.
3. An alert and progressive spirit, always endeavoring to improve the quality of their work and to better the service of the department to the institution.
4. That each member of the staff continue her study in the field of anesthesiology and keep abreast individually of the advances in drugs and methods.
5. That each staff member take an active interest in the program and objectives of the state and national anesthetists' organizations.

What do the members of the staff of

the department of anesthesia expect of the Chief Anesthetist?

1. Definite assignment of duties, equitably distributed as far as possible as to amount and time consumed.
2. Salaries at a level prevailing in the section of the country in which the hospital exists.
3. Helpful and constructive advice in regard to all problems arising in their work.
4. Information in regard to new drugs and methods and instruction in their use, if approved for the institution.
5. Opportunity to attend anesthetists' meetings as often as possible.

* * *

Dr. Malcolm T. MacEachern speaking at the October Institute for Instructors of Anesthesiology:

"I'd like to introduce to you a guest I brought over here with me, Captain Rhodes of Sidney, Australia. Beyond being a single man, girls, he has had a wonderful career. Captain Rhodes has, just within the last few weeks, been released from four years in a German prison. Before the war he was Director of the Sidney Hospital in Australia, the City Hospital there. Sidney is a city of about a million and a half, a grand city, and when I was over there in 1925 and '26, I spent a great deal of time in his hospital. I suppose he was just a baby then, but he has grown up now.

"He was the director of this big 500-bed hospital when he went into the Service. He was caught by the Germans in Greece while attending to their wounded. During those four years he has been shunted from prison to prison and I think he has been in twelve. He finally got to Nuernberg and was relieved by our own boys, the American boys, so he is very grateful to our American soldiers.

"He had many thrilling experiences and many close escapes. He told me last night the most interesting story I have ever heard about his work. He was one of the fellows who cooperated well. He showed the Germans his ability by what he tried to do as his duty and so they let him have the full responsibility of these camps as a medical officer under their jurisdiction but gave him free liberty in the way of doing the work. They were glad to have some doctor take care of the Russians, the English, the Americans and other soldiers because they were so limited in doctors.

"So in that time he and another fellow or two handled all the work. I think about twelve to fifteen thousand casualties passed through his hands in those various prisons. It was nothing for him to get orders to walk two hundred miles through snow and take everybody with him to keep away from the advancing Russians and I know on one occasion with five hundred patients, three hundred and fifty could take the march and one hundred and fifty had to be left behind in their beds by the orders of the Germans. I doubt if they had any medical care and probably they all died. They couldn't go on the march. He pleaded with the Germans to let him stay behind with the wounded, the one hundred and fifty that couldn't go on this march, but they would not let him do so.

"I told him last night that I wished somebody would write a book on his career, but he is like all these Australians—extremely modest. You have to pull everything out of him because he will not let on the many things that he did. He should have all the honors in the world for all he has done and come through. He has not been home for five years. He is on his way home."

* * *

"The teachers and staff nurses, as well as the anesthetists, in our hospital read THE JOURNAL of our Association and label it, 'The best professional journal they have read.'"—S.M.D. Sacred Heart Hospital, Yankton, South Dakota.

An Outline of Analeptic Drugs

SISTER MARY LaSALETTE, R.S.M.
Mt. Carmel Mercy Hospital
Detroit, Mich.

It is not my purpose to cover in detail the material on the analeptic drugs as taught to student anesthetists, but rather to present in outline form the material we use in teaching this phase of medication.

I. DEFINITION: Analeptics are stimulating drugs used to restore a subject to a normal state. They are divided into three groups:

A. Respiratory stimulants.
B. Cardiac stimulants.
C. Vasoconstrictor drugs.

II. RESPIRATORY STIMULANTS: The three respiratory drugs usually classed as the newer analeptics are picrotoxin, metrazol, and coramine.

A. *PICROTOXIN.*

1. Pharmacological effects:
   a. Stimulates central nervous system, especially the medulla.
   b. Circulation is improved as a result of improved respiration.
   c. Latent period between injection and reaction time.
   d. Margin of safety narrow.
   e. Dangerous drug; more potent than other respiratory stimulants.
2. Indications for use:
   a. Especially valuable for overdose of long-acting barbiturates where vigorous and prolonged treatment is necessary.
   b. Has been used in cyclopropane depression, but metrazol is preferred.
3. Dosage and method of administration:
   a. May be injected at the rate of 1 mg. per minute (⅓ cc.) until signs of stimulation occur, such as the return of some reflex previously absent.
   b. Fractional administration at intervals may be safer.
   c. In severe cases of barbiturate poisoning:
      (1) It appears safe to inject an initial dose of 2 to 3 cc. of 0.3% solution (6 to 9 mg.) intravenously.
      (2) *Wait for about 10 minutes* for a response, thus allowing time for the latent period to elapse.
      (3) If there is no improvement in respiration nor reoccurrence of reflexes previously absent, another dose of 2 to 3 cc. or more should be given 10 to 15 minutes after the first one.

Read at the October, 1945, Institute for Instructors of Anesthesiology, Chicago, sponsored by the American Association of Nurse Anesthetists.

(4) Up to 6 cc. at one dose has been given, but it is advisable not to make the increase too large.

(5) As a rule, in drug depression, if the first few doses of an analeptic are ineffective, further administration is thought to be futile—not so for picrotoxin.

d. Burstein and Rovenstine recommend 1 cc. doses (3 mg.) except in case of intoxication from barbiturates. If the first dose is effective, a second dose of 2 cc. may be given intramuscularly.

e. Marked barbiturate poisoning requires vigorous and prolonged treatment.

B. *METRAZOL*—derivative of camphor.

1. Pharmacological effects:
   a. Resistant to decompositon in body.
   b. Site of action is in the medulla.
   c. Stimulates the vasomotor and respiratory centers in the medulla.
      (1) Little or no effect on normal blood pressure.
      (2) In depression, it stimulates vasomotor center in medulla. This impulse is transmitted to the walls of peripheral vessels restoring their tone, thus tending to raise blood pressure to the normal level and improving pulse rate.
      (3) More effect on depressed respirations than normal.
      (4) Primarily, a respiratory stimulant and, secondarily, a circulatory stimulant.
      (5) Increase in depth of respiration.
   d. Not thought to have any action on heart muscle. Causes dilatation of the coronary arteries.
      (1) Improves circulation to heart muscle.
      (2) Improves heart action.
   e. Metrazol sensitizes respiratory center to carbon dioxide, thus stimulating when depression is such that the center does not respond to carbon dioxide.
2. Therapeutic application and dosage of metrazol:
   a. A single intravenous injection of at least 3 cc. of metrazol is necessary to restore respiration, circulation, and consciousness. In a critical emergency, 5 cc. or more has been injected as an initial dose.
   b. Accidents (trauma or surgery).
   c. Carbon monoxide poisoning.
   d. Drug poisoning.
   e. Congestive heart failure.
   f. Heart block.
   g. Paroxysmal tachycardia.
   h. Fatigue states.
   i. For emergency, if 1 or 2 cc. are given by injection, then 1 or 2 tablets, or 15 to 30 minims of metrazol oral solution, could be given three or four times a day.
   j. Pre-anesthetic: for poor surgical risks due to trauma, age, or debilitation.
   k. During operation: to combat respiratory or circulatory emergencies, or to lighten dangerously deep anesthesia.
   l. Post-operatively: To hasten recovery from anesthesia and to improve pulmonary ventilation.
3. Value in treatment of barbiturate poisoning:
   a. Stimulates respiration and improves circulation.
   b. Acts to restore functional control of cortical centers and increase mental activity, thus helping overcome depression of a barbiturate or depression following opiates and other narcotics.
   c. Quick acting; no latent period as in picrotoxin.
   d. Wider margin of safety than picrotoxin.
   e. Safest when convulsant doses are required.
   f. Especially valuable in nembutal,

amytal, and shorter-acting barbiturates.

4. Dosage in treatment of barbiturate poisoning:
   a. Individualize the dose.
   b. Fractional doses preferred and more satisfactory.
   c. 1½ to 2 cc. intravenously; repeated in five minutes if desired effect is not evident. If beneficial, then intramuscular dose is given.
   d. Used before local (2 cc. subcutaneously) to lessen tendency to collapse during operation.

C. *CORAMINE.*

1. Pharmacology:
   a. Stimulates medulla and carotid body. Coramine acting on respiratory center depends upon an active carotid body.
   b. Detoxified more slowly than metrazol or picrotoxin.
   c. Wide margin of safety.
   d. Affects respiration when central nervous system will not respond to carbon dioxide.
   e. Affects circulation very little.
   f. Faust, in 1925, found that it produced an increase in respiratory rate with a rise in blood pressure due to stimulation of medullary centers, not the sympathetic nerves.
2. Value and dosage in barbiturate poisoning:
   a. Not as active as metrazol or picrotoxin.
   b. Less than 5 cc. is slightly or entirely ineffective.
   c. Doses as high as 25 cc. have frequently been given.
   d. Give at five to ten minute intervals.
3. Coramine is recommended in avertin depression by some because of its wide margin of safety. It may also be used successfully in cyclopropane depression, but does not act as quickly as metrazol.

D. *ALPHA LOBELINE.*

1. Specific respiratory stimulant.
2. Most authorities give it little value.
3. Infant dose is 1/20 gr., intramuscularly or subcutaneously. Adult dose: 3/20 gr. subcutaneously, or 1/20 gr. intravenously.
4. Acts on medulla and carotid body.
5. Toxicity considered high.

E. *LOBELINE.*

1. Marked respiratory stimulant.
2. Intravenous dose is one-third the intramuscular dose.
3. Danger of overdose.
4. May stimulate the vagus nerve.
   a. Slow pulse.
   b. Lowered blood pressure.
   c. Produces bronchial spasm and convulsions.
   d. Paralyzes respiratory center and cardiac muscle.

F. *PRECAUTIONS, SIGNS OF OVERDOSE, TREATMENT:*

1. Give slowly.
2. Watch for movement or slight twitching of face and extremities.
3. If movements or twitchings are present, this is a sign to be careful; forced awakening will lead to convulsions. At this stage, reduce the dose and give intramuscularly, or subcutaneously. If the patient becomes more depressed, give intravenously again.
4. Respirations usually markedly accelerated before convulsion.
5. Short-acting barbiturates require larger doses at one time than the long-acting barbiturates.
6. To overcome convulsions, give a short or ultra-short-acting barbiturate intravenously. Give very slowly and *only enough to stop convulsions.*

III. CARDIAC STIMULANTS:

A. *CAMPHOR.*

1. Stimulates spinal cord, but causes reflex stimulation and is not good in deep anesthesia.
2. Camphor may improve cardiac contractions and remove arrhythmias when the heart muscle is depressed.

3. The response is uncertain, and gives only doubtful support.
4. Used clinically as a cardiac stimulant, it is inconstant, uncertain, and unreliable.

B. *STRYCHNINE:*

1. Stimulates central nervous system and spinal cord.
2. Blood pressure raised slightly.
3. Heart beat improved.
4. Overdose produces convulsions.

C. *DIGITALIS AND DIGALEN:*

1. Increases tone, excitability and contractility, and the refractory phase of the cardiac muscle.
2. Stimulates vagus nerve and slows conduction through the bundle of His.
3. Therapeutic doses:
   a. Slower, but more powerful heart beat results. This brings about compensation in valvular cardiac lesions and thus relieves irregularities, edema, congestion, dyspnea, etc.
   b. Even therapeutic doses may induce ventricular fibrillation in some diseased hearts, particularly those with impaired conduction, by too-abrupt introduction, especially, of overdoses.
4. Digalen is given intravenously in 1 or 2 cc. doses for a rapid pulse.

D. *CAFFEINE, U.S.P.*

1. Pharmacological effects:
   a. Central nervous system.
      (1) Stimuates the medulla.
      (2) Stimulates psychical functions.
         (a) Quicker, clearer flow of thought.
         (b) Large doses cause excitement and wakefulness.
   b. Circulation:
      (1) Sometimes ordinary doses induce some slowing of the pulse, due to mild stimulation of inhibitory center in the medulla.
      (2) Blood pressure raised 5 to 10 mm. in some individuals and not at all in others. Sollman says it is a vasodilator. Very little caffeine suffices to counteract the constrictor effect of adrenalin.
   c. Respiration:
      (1) Quickened, especially in midst of depression.
      (2) Not effective if depression from anesthetic drugs is noticeable.
2. Not as powerful or lasting as digitalis. Heart tone is increased, amplitude of excursion greater.

IV. VASOCONSTRICTOR DRUGS: raise blood pressure by acting upon the nerve endings of the central nervous system.

A. *ADRENALIN.*

1. Acts on myoneural junctions of the sympathetic nervous system.
2. Stimulates sympathetic nervous system.
   a. Dilates pupils.
   b. Constricts blood vessels.
      (1) Vasoconstriction in the arterioles of the skin and splanchnic area; intravenous injection reaches maximum in a few seconds and is maintained for a few minutes.
      (2) The initial rise in pressure in the carotid sinus and arch of the aorta sets into activity the pressor sensory receptors. Volleys of impulses are sent by way of the glossopharyngeal and vagus nerves to the cardio-inhibitor and vasomotor centers. There, altered activity leads to a decreased cardiac rate and some vasodilatation, particularly in the vessels not strongly constricted by adrenalin itself.
   c. Accelerates the heart arteries.
   d. Dilates the coronary. With the increased pressure, there is much greater blood flow with increased

oxygen for the heart.

e. Dilates bronchioles.

3. Indications for use:

a. Fall in blood pressure from anesthesia.

(1) Avertin.

(a) Vasoconstrictor drug indicated.

(b) The use of carbon dioxide is also valuable because carbon dioxide activates blood circulation and blood pressure, besides stimulating respiratory system.

(c) Complementary anesthesia having a tendency to raise blood presssure should be given.

(2) Spinal.

(a) Vasoconstrictor drugs will raise the blood pressure and overcome cerebral anemia and anoxia. They are valuable as respiratory stimulants if there is cerebral anemia, but they are not true respiratory stimulants.

(b) Respiratory stimulants are valuable when respirations are inhibited, because of involvement of intercostal or phrenic nerves.

b. Cardiac failure under chloroform:

(1) 0.3 cc. of epinephrine hydrochloride preferably diluted with 20 to 25 cc. saline.

(2) Inject into left ventricle so that some may enter the coronary arteries and reach the sinus node and musculature.

(a) Adrenalin increases activity of the node.

(b) Adrenalin increases contractility of the auricular and ventricular muscle.

(c) Coronary arteries will dilate and with recovery of arterial pressure, the heart will again be supplied with blood and oxygen.

c. Surgical shock:

Only when adrenal medulla is exhausted and, then, in very low physiological concentration which might do nothing more than improve cardiac contractility.

d. With local anesthetics:

(1) Advantage being constriction of minute vessels and, consequently, the decreased circulation leads to a slower fall in local anesthetic concentration and an increased duration of anesthesia.

(2) Low concentration: 1:50,000—1:100,000.

4. Contraindications for use:

a. During chloroform and cyclopropane anesthesia.

(1) Changes cardiac metabolism in low concentrations.

(2) In therapeutic dose, intravenously or subcutaneously, it also produces changes in cardiac function.

(3) In chloroform anesthesia, one single injection of adrenalin led to sudden ventricular fibrillation and death.

(4) Extra systoles with cyclopropane.

(5) Adrenalin has been given in cardiac failure under chloroform.

b. Hypertension.

c. Coronary disease or thrombosis.

d. Shock—where there is danger of inducing ventricular fibrillation.

B. *NEOSYNEPHRIN.*

1. Pharmacological effects:

a. Slows heart rate and increases stroke output. Induces no disturbance in rhythm of the pulse.

b. Little, if any, stimulation of cord or cerebrum.

c. Vasoconstrictor, increasing blood pressure by peripheral vasoconstriction.

d. Toxicity extremely low; margin of safety high.
e. Does not produce trembling, or nervous apprehension.

2. Indications for use:
   a. Peripheral vascular failure or shock.
   b. May be used with cyclopropane or chloroform without irritation of the heart muscle.
   c. Does not produce arrhythmias in arteriosclerotics.
3. Contraindications:
   a. Hypertension.
   b. With caution, in hyperthyroid.
   c. With caution, in aged.
   d. Bradycardia.
   e. Partial heart block.
   f. Myocardial disease.

C. *EPHEDRINE.*

1. Pharmacological effects:
   a. Arteriolar constriction.
   b. Dilates coronary arteries.
   c. Increases pulse and heart output.
   d. Increased blood sugar.
2. Indications for use:
   a. Arteriosclerosis — arrhythmias occurred with extra systoles and fibrillation.
   b. In shock, where there is danger of ventricular fibrillation.
   c. Myocardial damage.

D. *THE USE OF EPHEDRINE AND ADRENALIN COMBINED.*

1. Pressor response to epinephrine is much greater if ephedrine is also present in the body.
2. Ephedrine inhibits amine oxidase, allowing epinephrine to work.
   a. Amine oxidase supposedly oxidizes epinephrine.
   b. In some cases of high spinal anesthesia, it is possible that, though ephedrine inhibits the action of amine oxidase, because of the blocking of most of the sympathetic secretory fibers to the adrenal glands, that there is a subnormal amount of adrenalin present in the circulation. Consequently, no pressor response is effected by ephedrine.
3. If epinephrine is given with ephedrine, a typical epinephrine rise and peak in blood pressure results, followed by a moderate fall, leveling off at a higher systolic and diastolic pressure than was present at the time of injection.
4. Adrenalin is usually given 15 to 20 minutes after the ephedrine; a prompt rise in blood pressure results.
5. About 25-50 mg. of ephedrine is given when adrenalin is used with it; otherwise 50-100 mg. is used.
6. Contraindications:
   a. May be harmful if used too often on the same patient.
   b. Cardiovascular disease.
   c. Thyrotoxicosis.
   d. Diabetes.

E. *METHEDRINE.*

1. Moderate doses of methedrine act as a pressor agent by vasoconstriction of peripheral vessels; in larger doses, it acts directly on the heart.
2. Pulse rate may increase, or be the same; some have lowered.
3. Dosage of 15 to 30 mg. intravenously acts immediately. Intramuscularly, it acts in five minutes with a gradual rise to normal in 15 to 18 minutes.
4. Consistent gradual action; lasts one half to several (three) hours.
5. Repeated doses are effective.
6. Respiration increased; does not produce a precipitate rise, nor is it followed by a sharp fall in blood pressure.
7. One injection is usually sufficient.
8. Overdose may be disastrous in a patient with myocardial and coronary disease, hypertension, or arteriosclerosis with any vasoconstrictor drug.

F. *EA-1 HYDROCHLORIDE (Adriani)*

1. Similar to ephedrine, but lasts longer.

2. Stimulates heart and improves contractions.
3. Dilatation of pupils.
4. Broncho-dilatation.
5. Decrease in renal volume.
6. No action on smooth muscle of uterus.
7. Derives pressor effect by constriction of arterioles.
8. Low toxicity.
9. In therapeutic amount, does not appear to have any direct stimulating or depressing action on the central nervous system; nausea and vomiting notably absent.
10. Large doses: weakness, lethargy, drowsiness, prostration.
    Average effective dose, intramuscularly, is 75 mg.; intravenously, 10 to 50 mg. is effective. Best results in a 50% dilution with saline or distilled water.
11. Effect on pulse similar to neosynephrine.

V. SUMMARY:

In conclusion: The analeptic drugs all have their respective place in anesthesia, but it must be remembered that drugs are not a cure-all. An individual who is not breathing needs artificial respiration and oxygen, not an intravenous drug, until artificial respiration and oxygen have failed to bring about the desired results. A great deal of time and effort have been spent on the idea of developing a drug that will stimulate respiration. It seems to me that more time should be given to teaching the proper use of drugs in order to prevent severe respiratory depression, as well as safer and surer methods of treating cessation of respiration when it occurs.

Although respiration may be depressed so severely that carbon dioxide fails to stimulate, even then, the vitality of the brain and its centers can still be restored if they are kept oxygenated until drug concentration is reduced. In case of an emergency, metrazol is superior to picrotoxin or coramine because of its quick action. Picrotoxin has a latent period between the time of injection and reaction. Although coramine does have the widest margin of safety, it acts more slowly and much larger doses are required. Picrotoxin is too dangerous to be used by those who are not familiar with its action. There is, of course, danger of overdose in using metrazol, but it has been found that when convulsant doses are required, metrazol is safer than picrotoxin.

In regard to the use of cardiac and vasoconstrictor drugs, two considerations should be pointed out: (1) In the use of cardiac stimulants, attention may be diverted from the all-important problem of getting oxygen (air or otherwise) into the lungs before the central nervous system and circulation are damaged or dead. (2) There is also a question as to how much good is accomplished by "whipping up the heart." Some cells that are being stimulated probably are in severe oxygen want, therefore, the value of oxygen in connection with the administration of cardiac stimulants cannot be overestimated, especially in acute conditions. The time given to the study of drugs used before, during, and after anesthesia is time well spent.

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(Continued to page 49)

ABSTRACTS

It is the aim of this department to bring before readers recent publications which we believe are of practical value to the nurse anesthetist. We shall also call to your attention articles not so recently published that are of lasting interest. Some articles will be merely listed; others will be abstracted. Wherever practical abstracting will be done by the use of direct quotations. Contributions and suggestions will be most welcome.

TITLE: The Pre-anesthetic Preparation of the Surgical Patient

AUTHOR: E. A. Rovenstine, M.D.

PUBLICATION: *Journal Michigan Medical Society*. 44: 45-51 (Jan.) 1945

ABSTRACTOR: Opal M. Schram, R.N. (This abstract was prepared from the abstract by J. M. M. C. which appeared in *Anesthesiology*, Vol. 6, No. 5, September, 1945.)

"It is no new practice to give drugs shortly before anesthesia is induced. . . .

"Pre-anesthetic medication has for its primary purpose an increased margin of safety for the patient. His comfort and rapid convalescence are other important aims. . . . It is established that patients who have received sedative drugs will require correspondingly less anesthetic agent depending upon the degree of narcosis already present. . . .

"The thesis of Guedel is familiar wherein he correlates the reflex irritability, or what might be termed resistance to anesthesia, directly with oxygen demand or metabolic activity and indirectly with the state of mental activity. . . . In practice this tenet serves as a useful guide in the proper pre-anesthetic medication. To illustrate, patients with elevated metabolic rates, such as those with hyperthyroidism or infections, can be given properly a much larger amount of sedative drugs than is needed or is safe when there is a normal metabolic rate. Likewise for the old and young, a decreased amount of sedatives is imperative and can be approximated from Guedel's recommendations. . . . Other considerations are the anesthetic agents and techniques that will be employed later, the nature of the surgery to be completed, the post-operative requirements and, of greatest importance, the nature of existing disturbed functions that may influence either the response to pre-anesthetic or anesthetic drugs. . . .

"The opiates have a well-deserved place at the top of the list of drugs for use immediately before surgical anesthesia is induced. The morphine salts are representative and most widely employed. . . .

"The objective and subjective depression with morphine does not parallel the analgesic action. When given subcutaneously, more than an hour will elapse before subjective narcosis attains its maximum. If it is given at a shorter interval before anesthesia is induced, its value is decreased greatly, and often the anesthetist may realize that maximum effects are reached at a time when the patient is already deeply anesthet-

ized and with a high concentration of anesthetic agent in his tissues. . . . When given intravenously, and it is altogether likely that this will soon be the rule, the desired effects are to be had in about ten minutes. . . .

"An analgesic recently added to those useful in premedication is marketed as demerol. . . . It has not been evaluated conclusively, but a recent comparative study in dogs and man concludes that it provides psychic sedation, facilitates induction, has fewer side effects such as nausea and vertigo and reduces the amount of complemental anesthetic drug comparable to morphine. . . .

"It is common practice to combine with injections of morphine or demerol either atropine or scopolamine. Until recently these alkaloids of the belladonna plant were used primarily to depress salivary activity. This is an essential effect but by no means the primary one. Their action on the central nervous system as well as on smooth muscle is important. They counterbalance to some extent the respiratory depression caused by opiates and cyclopropane. . . . The most recent consideration given atropine and scopolamine in anesthesia is occasioned by their effect in modifying reflex activity of the autonomic nervous system. Attention is being directed toward reflex circulatory disturbances more frequently than in the past. The carotid sinus mechanism with hypotension and bradycardia; the vagovagal reflexes stimulated mechanically by manipulations in the thoracic cavity with cardiac inhibition; laryngospasm and apnea; the bronchospasms, with lower respiratory tract obstruction, are complications which may be avoided often with adequate amounts of the belladonna alkaloids. Particularly is this true when the barbiturates or cyclopropane is used since these drugs tend to increase parasympathetic activity. When drugs such as ether are used, sympathetic activity is increased and reflexes, such as the abdominal traction reflexes, may be hyperactive. Such sympathetic influence is enhanced by atropine and scopolamine, a fact which must be taken into account when they are used before upper abdominal surgery.

"Among the more popular group of drugs used before the induction of anesthesia are the derivatives of barbituric acid. These hypnotics have the specific action of reducing the toxic effects of the local anesthetics. . . . These drugs are used more often, however, for their sleep-producing qualities. It should be remembered that they are not analgesic and that therapeutic amounts usually increase the sensations of pain. . . . Excepting when regional anesthesia is employed, they are more useful from the standpoint of the patient's comfort than his safety. . . .

"Avertin in amylene hydrate has gained a merited popularity for use before complemental anesthesia is induced. Given in aqueous solution by rectum, it is absorbed quickly (95 per cent in twenty-five minutes) and produces two effects unlike most other depressant drugs. Intracranial pressure and intraocular tensions are reduced. . . . Objections to its use are many but more particularly are associated with liver or kidney damage since the drug interferes with normal functioning of these organs. . . .

"Another significant interest in preanesthetic preparation is the mental and physical comfort of the patient. . . . The influence of emotional factors upon physiologic processes is better under-

stood now but the specific effects these may have in determining the morbidity and mortality from anesthesia are still speculative. . . .

"The pre-anesthetic visit of the anesthetist is an integral part of preparation. Such a visit is not made with the surgeon or internist to discuss the case or plan the procedure. That should be done elsewhere. The visit is made to become acquainted, gain confidence, learn the anesthetic history and to observe the patient in an environment other than the operating room. . . . Pre-anesthetic preparation must be rigidly individualized."

TITLE: Clinical Studies on Morphine

AUTHORS: Robert D. Dripps, M.D.
Julius H. Comroe, Jr., M.D.

PUBLICATION: *Anesthesiology,* Vol. 6, No. 5, September, 1945

ABSTRACTOR: Opal M. Schram, R.N.

"It is well known that morphine is a respiratory depressant. Because of the increasing use of intravenous morphine in civilian and military medicine, it seemed pertinent to measure its effect upon the respiration of normal individuals of varying ages. To complement these data, similar evidence was obtained upon subjects given morphine intramuscularly. . . .

"Twenty-six subjects received morphine sulfate intravenously; their ages ranged from 19 to 88. . . . Twenty-three subjects received morphine intramuscularly into the deltoid muscle; their ages varied from 20 to 88. . . .

"The maximal depression of minute volume occurred in the three to seven minute period (following intravenous administration) in 17 instances; only rarely did the minute volume decrease progressively throughout the thirty-five minute experimental period. . . . The onset of respiratory depression following intramuscular injection was slower. . . . The data presented indicate that the maximal respiratory depression following morphine is approximately the same whether the morphine be administered intravenously or intramuscularly. . . .

"The depression noted in our studies was probably greater than would occur clinically if morphine were administered to patients with severe pain; our subjects were free from pain and all outside distracting influences. On the other hand, greater depression might be observed if respiratory damage were present at the start, as in cases with cranial injury.

"While these studies confirm with quantitative data the respiratory depressant action of morphine in man, they do not contraindicate its use by the intravenous route. Respiratory depression appears to be no greater when morphine is so given. Indeed, in one respect, morphine appears to be safer when given intravenously, since the full degree of respiratory depression becomes apparent within three to seven minutes in most instances. Following intramuscular or subcutaneous morphine, the depression may gradually deepen over a period of thirty to ninety or more minutes. If the patient given intravenous morphine is watched carefully over a ten minute period, post-injection, the maximal depression will usually be noted. The time course of this respiratory depression is also important when morphine is injected intravenously as pre-operative medication before general

anesthesia; induction of general anesthesia should be delayed ten minutes, post-injection, until the maximal depression has been noted. If this precaution is observed, the intravenous route is a useful one prior to general anesthesia, since it enables the anesthetist to avoid the annoying combination of increasing respiratory depression from morphine and anesthetic agent.

"Morphine was given intravenously to 6 subjects over 74 years of age and intramuscularly to 9 subjects over 68 years. The average amount of respiratory depression was less in these patients than the average for the whole series. The dose of morphine was smaller in the aged group; nevertheless they do not appear to possess the great sensitivity to morphine often attributed to them. Cheyne-Stokes respiration, however, did occur in 3 of the 9 subjects given morphine intramuscularly and in 2 to 6 receiving it intravenously. Two of this group breathed periodically before morphine and one of the younger group showed this phenomenon during the light sleep induced in her by the morphine given intravenously. Cheyne-Stokes respiration may occasionally be detected in normal sleeping individuals and does not necessarily indicate severe respiratory damage unless fully developed and prolonged.

"The data obtained contradict the statement frequently made that morphine increases the depth of respiration. . . . Increased depth of breathing is often observed in patients receiving an overdose of morphine, particularly when the respiratory rate is depressed to 2 - 4 per minute. . . . the overall effect however was a decrease in minute volume. . . . It is probably safest to regard morphine as a drug capable of depressing all phases of respiration.

"An interesting finding was the statement made by 4 subjects that respiratory effort diminished following administration of morphine. . . . These subjective sensations regarding respiration suggest the possibility that the beneficial effects of morphine in the treatment of clinical dyspenea may be related to a sensation that respiration was easier, rather than to any measurable improvement in respiratory function.

"CONCLUSIONS: . . . Following intravenous injection, morphine produced maximal depressant effects within three to seven minutes in the majority of instances. Respiratory minute volume, rate and tidal exchange were diminished.

"The intensity of action of morphine on respiration is not significantly increased by intravenous administration." 5 references.

Calendar

May 1-2-3, 1946—Tri-State Nurse Anesthetists Assembly, held in conjunction with the Tri-State Hospital Assembly; Palmer House, Chicago, Ill. Michigan, Wisconsin, Indiana and Illinois nurse anesthetists urged to attend. Mrs. Mae B. Cameron, chairman.

May 14-16, 1946—California Association of Nurse Anesthetists, meeting in conjunction with the Western Hospital Association, Biltmore Hotel, Los Angeles, Cal.

June 10-12, 1946—New York State Association of Nurse Anesthetists, annual meeting, Pennsylvania Hotel, New York City.

September 27-October 3, 1946—American Association of Nurse Anesthetists, annual meeting held in conjunction with the American Hospital Associations; and School of Anesthesiology Assembly.

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The Hotel Philadelphia has been selected as convention headquarters for the annual meeting of the American Association of Nurse Anesthetists to be held in conjunction with the American Hospital Association September 27 through October 3, 1946, at Philadelphia, Pennsylvania. This hotel is convenient to the Convention Hall, the Pennsylvania and the Baltimore & Ohio railroad stations, and the major highways. All room reservations must be made through the American Hospital Association, 18 East Division Street, Chicago, Ill.

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The Problem of the Service-Trained Anesthetist

JANET McMAHON, University Hospitals of Cleveland, Cleveland, Ohio. Miss McMahon is former chairman of the Postwar Planning Committee, American Association of Nurse Anesthetists.

One of the most urgent problems confronting the American Association of Nurse Anesthetists today is that of determining what policy should be adopted in regard to admitting into the Association anesthetists trained in military hospitals. Unfortunately, this problem cannot be solved satisfactorily by merely passing a resolution that all service-trained anesthetists be required to take supplementary training in a civilian school of anesthesiology in order to qualify for membership. The schools are filled to capacity and cannot possibly accommodate the large number of service-trained anesthetists who are interested in continuing in the field.

One of the most difficult aspects of this problem is that the courses given by military hospitals varied greatly in regard to duration of course, hours of theoretical instruction, and variety of clinical experience. Most of the courses given in Army hospitals in the United States were of six months' duration. While some of the six months' courses included as little as twelve hours of theoretical instruction, others provided theoretical instruction and clinical experience which compare favorably with civilian schools.

Clinical experience following graduation was also varied, in some cases being restricted to only a few types of surgery, anesthetic agents, and methods of administration, while in others, clinical experience has been extensive.

Because of the great variation in the quality of the training and experience of service-trained anesthetists, it has seemed advisable to plan a program based on individual training and ability, rather than attempt to develop a standard or "blanket" policy for all service-trained anesthetists.

In its report to the Board of Trustees in October, the Postwar Planning Committee offered the following suggestions:

1. Supplementary training courses, designed to offer service-trained anesthetists adequate additional theoretical and clinical experience, should be developed in the schools of anesthesiology. Questionnaires should be sent to the schools to determine how many would be willing to offer such courses.
2. An examination program should

be developed for the purpose of determining whether or not an anesthetist needs further training in anesthesiology to qualify for membership in the American Association of Nurse Anesthetists. It was suggested that this examination should include an evaluation of the anesthetist's technical ability by means of a practical examination, as well as examination in theory. Such an examination could be used not only to determine the individual's eligibility for membership but also, in the event the individual did not pass the examination, her performance could be used as a basis for determining the amount of additional training that may be necessary.

3. A special committee on admissions would be needed to handle applications from service-trained anesthetists.

It was the opinion of the Board of Trustees that such an examination program could not be set up to function properly in a short time and that the matter of granting credit for past experience in anesthesia would, of necessity, depend upon the policy of the school of anesthesiology.

The following suggestions for a program of action on this problem were made by the Board of Trustees:

1. Graduates of service schools offering courses of less than six months' duration should be required to have additional training before being permitted to take the qualifying examination for membership.
2. A questionnaire should be sent to the schools to determine which schools would be willing to take service-trained anesthetists for supplementary training.
3. It would be necessary to determine the number of service-trained anesthetists which could be accommodated by the schools before deciding on a definite policy in regard to the graduates of the six-months' courses. It was suggested, however, that graduates of those six-months' courses which meet the minimum standards of the Association in regard to theoretical instruction and clinical experience, be permitted to take the qualifying examination for membership.

The questionnaire sent to the schools of anesthesiology was designed to determine (1) the number of schools willing to accept service-trained anesthetists into their regular classes; (2) the number of students which could be taken in each class; (3) the number of classes taken per year; (4) whether or not credit would be granted for past experience in anesthesia; (5) upon what basis credit would be given.

Two alternative plans were suggested for consideration in the event that the school was unable to accommodate more students in its regular classes. These plans were as follows:

Plan 1. An affiliation program, in which the school would teach the theory of anesthesiology to a group of service-trained anesthetists, arranging with other hospitals in the community to offer clinical experience to these students.

Plan 2. A concentrated course in theory with clinical observation, but no clinical experience; such a course to be offered only to those service-trained anesthetists who are graduates of six-months' courses,

and who have had adequate clinical experience, but insufficient theoretical instruction.

The questionnaire was sent in November to forty-three schools of anesthesiology. Thirty-two of these questionnaires have been returned. The following is a summary of the information obtained:

1. Twenty-five schools are willing to accept service-trained anesthetists into their regular classes.
2. An exact statement as to the number of service-trained anesthetists which can be accommodated by all of the schools cannot be made, since some of the schools did not indicate how many classes could be admitted per year. From the figures available, it is estimated that approximately 120 students can be accommodated in the schools in the year 1946.
3. Sixteen schools will grant credit for past experience in anesthesia. In most schools, the amount of credit granted will be based on evaluation of the individual's ability.
4. Two schools indicated that they would be willing to consider developing such a program as outlined in Plan 1.
5. Two schools indicated that they would consider setting up a program as outlined in Plan 2.
6. One school is offering a course of six-months' duration designed especially for service-trained anesthetists.

In adopting a policy in regard to admitting these anesthetists, the responsibilities of the Association are two-fold. We do not wish to undermine the work thus far accomplished in raising our educational standards, but at the same time, it is entirely possible that many individuals capable of making a valuable contribution may be lost to the field, if we do nothing to help them become established in anesthesia in civilian life.

Since many service-trained anesthetists have had training and experience comparing favorably with that offered in civilian schools, it would seem justifiable to allow those anesthetists to take the qualifying examination for membership. We must not base eligibility solely on the duration of the course which these anesthetists have had, however, since in some instances, the six-months' courses did not offer enough theoretical instruction or clinical experience to produce a well-trained anesthetist. Any recommendation concerning admission to membership of graduates of the six-months' courses offered in military hospitals should, of necessity, include clearly defined, minimum requirements for the graduates of such courses, which can be used by the Credentials Committee in determining the eligibility of these applicants. It may also be advisable to place a restriction on the privilege of re-examination in such cases, the applicant being required to obtain additional training, if she does not pass the first examination successfully.

It will also be necessary for the Association to define clearly the standards for supplementary training courses which will be considered acceptable for membership, in order to assist the schools in setting up such programs. Any school agreeing to offer a supplementary training course should set up the course in such a manner that it could grant a certificate or diploma to students upon satisfactory completion of the course.

AGATHA COBOURG HODGINS

THE passing of Agatha Cobourg Hodgins in 1945 removed from the field of anesthesiology one of its most colorful, gifted, and notable pioneers. A woman of marked administrative ability, exceptional foresight, and inventive genius, she was the founder of the American Association of Nurse Anesthetists and the originator, or co-inventor, of many techniques, procedures, and appliances now used by anesthetists the world over.

Keenly intelligent, courageous, and energetic, Miss Hodgins' resourcefulness, technical skill, and professional initiative won her an international reputation in her specialty and established her as the foremost leader of nurse anesthetist education during the past thirty years.

She was born in Toronto, Canada, where she received her early education and was graduated from junior college. The daughter of conservative, prosperous parents, she was expected to participate in their sheltered home life and engage in the social occupations of young ladies of her time. Agatha Hodgins was too enterprising, however, to settle down placidly to the humdrum activities of an Episcopalian church circle. With the determination and progressiveness which characterized her whole life, she travelled to the United States and entered the Boston City Hospital Training School for Nurses.

After graduation, she affiliated, in 1909, with the Surgical Department of Lakeside Hospital, Cleveland, Ohio, whose surgeon-in-chief was the brilliant professor of surgery at Western Reserve University, Dr. George W. Crile. Miss Hodgins' professional skill and special qualities of mind soon came to the attention of Dr. Crile, who was then seeking a solution to the problem of surgical shock. In Miss Hodgins he found an able teammate and the two minds and skills blended into a collaborative effort which made medical history. In 1911, Dr. Crile placed Miss Hodgins in charge of anesthesia in the Surgical Department of Lakeside Hospital and later, the first school of anesthesiology in this country was developed there under their direction.

Such progress in anesthesiology has been made in the thirty-five years since, that it is difficult for anesthetists today to grasp the limitations of the field at that time. For years, chloroform, with its dangers, and ether, with its suffocation, had been the agents customarily relied upon. Nitrous oxide had been introduced in 1908, but it was found to produce another peril—cyanosis. It is due to the efforts of Dr. Crile and Miss Hodgins that a better anesthetic and safer administration procedure was eventually developed.

In the clinic at Lakeside Hospital, it had been demonstrated that anesthesia could be produced without cyanosis if nitrous oxide was administered in combination with oxygen. One of Miss Hodgins' first contributions to anesthesiology was the development of the nitrous oxide-oxygen technique for general surgical procedure which has since become familiar to all students of anesthesiology. Working with C. W. Clarke, inventor of the Ohio monovalve apparatus, Miss Hodgins also made notable contributions to the progressive improvement of the gas machine, forerunner of the efficient piece of equipment we know today.

In 1908, in response to numerous requests for the training of nurses in anesthesia technique, the hospital accepted a few applicants who had already had some experience in administering ether. This was the beginning of the Lakeside Hospital School of Anesthesia. Further development was delayed by the advent of World War I. A special American Hospital Unit was organized for overseas' service with Dr. Crile as Surgeon-in-chief and Miss Hodgins as Chief Anesthetist.

The "Lakeside Unit" sailed for Europe in December, 1914, and functioned at the American Ambulance Hospital at Neuilly, France, during the early part of the war. The nitrous oxide-oxygen technique introduced by the Lakeside Unit soon achieved wide acclaim. Many overseas surgeons visited Dr. Crile and asked that their anesthetists be trained in Miss Hodgins' procedures. As a consequence, a French physician, two groups of English nurses, and an American nurse were trained during Miss Hodgins' stay at this hospital.

Miss Hodgins' success as a teacher of these procedures was confirmed when the Lakeside Unit was replaced by the Harvard Unit and Dr. Harvey Cushing requested that she remain and continue teaching her technique until they were well established in that area of operation. Much of Miss Hodgins' work was necessarily done at the front and with anesthetizing apparatus hazardously transported to front-line trenches under enemy fire. Here, however, she was able to demonstrate under entirely new circumstances the solution provided by nitrous oxide-oxygen anesthesia in the problem of operative shock. Its usefulness was particularly evident in patients who had been gassed.

Shortly after her return to Cleveland in 1915, Miss Hodgins, at Dr. Crile's urgent request, began the organization of what is believed to have been the first school of anesthesiology in this country and, probably, the world. With definite educational prerequisites and a prescribed course of study, the Lakeside Hospital School of Anesthesia graduated its first class in 1916. This included six physicians, two dentists, and eleven nurses. Later that year, the Ohio State Medical Board questioned the legal status of the new school, but in 1917, all obstacles were raised and the school permitted to proceed.

Meanwhile, the United States entered World War I and our National Base Hospital plan was organized for overseas service. Miss Hodgins did not join any of the units recruited for this project, however, as it was considered more important for her to remain in America, and on the basis of her valuable war experience to train nurse anesthetists for such service. The striking services rendered by nurse anesthetists trained by Miss Hodgins for World War I duty added greatly to the prestige of the profession after the war.

Miss Hodgins devoted her life from World War I through 1934, when illness forced her retirement, to the development of teaching methods in anesthesiology and the perfection of an adequate course of study for the student nurse anesthetist. From her original nitrous oxide-oxygen anesthesia, with its then unique advantage of defense against surgical shock, she expanded her curriculum to include other gas-oxygen and carbon dioxide techniques, as their merits were verified. From her school and from others patterned from it, graduate nurse anesthetists and teachers of nurse anesthetists, inspired by her great example, went forth to the four corners of the earth, carrying with them the boon of modern skilled anesthesiology, often to areas where such service had hitherto been unavailable.

It was Miss Hodgins' conviction that the professional position of the nurse anesthetist could be advanced through state and national organization and during the last years of her administration at Lakeside Hospital School of Anesthesia, she used her leisure to promote this idea. On June 17, 1931, she called a meeting of representative nurse anesthetists which resulted in the organization of the National Association of Nurse Anesthetists; later renamed the American Association of Nurse Anesthetists. From its inception until her death on March 24, 1945, she served the Association continuously as a member of the Board of Trustees.

After her retirement from clinical anesthesiology in 1934, she continued to serve, in active advisory capacity, the Lakeside Hospital School of Anesthesia and the American Association of Nurse Anesthetists. In her community, she had long fostered the Boy Scout and Girl Scout movements and was active also in Red Cross work, as well as church and civic enterprises. Her indominitable efforts in behalf of the advancement of her profession, her sincerity, courage, vision, enthusiasm, and inspiring leadership in all she undertook, and her unselfish service to mankind have all contributed to the betterment of the world, her country, her community, and her profession. As a "first" in our profession, Agatha Hodgins set an example of which we may justly be proud and hope, in some small measure, to emulate.

Clara R. Moore
Helen Lamb
Aida Allwein, Chairman

PANEL DISCUSSION: The Nurse Anesthetist's Plans For Tomorrow's Responsibilities

The accompanying material is a direct reprint from the verbatim report of the Institute for Instructors of Anesthesiology, conducted by the American Association of Nurse Anesthetists October 8-13, 1945 in Chicago.

THE COORDINATOR
By
MalcomT.MacEachern,M.D.

The session on Monday afternoon, Oct. 8, was called to order at 2 o'clock by Dr. Malcolm T. MacEachern.

CHAIRMAN MacEACHERN: I want to congratulate you on this Institute; a fine arrangement. It's a fine thing to have the Institute. I have been working with institutes for thirteen years and as I look back, as Director of the institute for Hospital Administrators at the University of Chicago held every year, I have always felt I was one of the students present, because there was so much to learn. Also, in foreign countries where we have had institutes—at San Juan, Mexico City, and Lima—though out of my own country, I learned a great deal. We were brought there as the teaching faculty. They looked upon us fellows from the United States as people who came down to teach them but, to tell you the truth, they taught us a lot of things before we were finished.

I don't think there is any institute from which you can't learn something. Remember, an institute is a refresher course to stimulate and work up, add to and adjust the information which you have.

You can't make a nurse anesthetist in an institute, but you can give her a great impetus in this work.

To come to our topic, "The Nurse Anesthetist's Plans for Tomorrow's Responsibilities," there is one thing we will have with us always—anesthesia in some form. There are about six and a half million patients operated on in this country each year and they require anesthesia in some form. It is true that there are a number of local anesthetics in the field, but the great bulk of these six million two hundred and fifty thousand operations have been done under general anesthesia, so that it is a work which will always be on the increase.

Where will you find yourselves in this new world after the war? It is a new world, in a way. We are adjusting everything; we are post-war planning; we are changing things. Every person is adjusting to the newer things, and things are going to be better. We are going to do for the sick and injured, things that we never did before. Our hospital death rates are going to drop; our infections are going to decrease.

We are not going to have postoperative deaths and results like that. We now know much more about shock and blood substitutes, chemo-therapy, penicillin, and many other newer therapies.

The men coming back from the war will make changes in our hospitals. Our hospitals are going to seem old-fashioned to some of them when they come home and, thank goodness, we are going to reach a new level in all these things which will no doubt be better than ever before.

War is a terrible, a horrible thing, it is something which should never happen, but nevertheless, following every war, there seems to be a great improvement in things that affect humankind. That doesn't say we should have war, but it does say that we do get down to brass tacks and study things more carefully in war, and we come out with new information.

We have had the National Research Council at work with the best doctors in the country going to Washington every week and meeting for days to try to find new ways of treating burns, fractures, shock, hemorrhage and the like. Two years before we went into the war, these men were going down to Washington on committees every week, spending hours and days there, studying new things because there was the possibility of war.

We ought to do that in peacetime. We soon will drop out of war service; we may forget that we must still advance during peacetime.

Anesthesia has improved tremendously in this war. Great advances had been made in anesthesia in all the theatres of war and many of the nurse anesthetists who were in the service will perhaps be familiar with that, too.

Your future is just as good as you make it. If you are well trained in your specialty, if you do your work properly, if you work diligently, your future will be all right.

In looking at the speakers here—I don't know Miss Anderson, but I think I might include her, too—looking at Miss McConnell, Dr. Moore, and Mr. Lyons here, they are three people who never watched the clock. Their job was never done; they always saw something to do. They have climbed to the height of their respective professions because of the many hard hours of labor they put in beyond what they were paid for and furthermore, they also kept abreast of the trends of their day that advanced their own particular work.

So I think in any group, your future is built on what you have done in the past, how well you have done it, how you have kept up with the advances of medical science and allied activities, and how you perform your work, and how you fit into the great program of the care of the sick and the injured.

I am glad you are going to hear today from people who are real human beings in this troubled world of ours. The first speaker will talk from the administrative standpoint—he is Administrator of St. Luke's Hospital, Chicago, Ill., one of our great hospital institutions in this country. I am sure that Mr. Lyons will have something good to tell us. I introduce to you, Mr. Leo Lyons.

THE ADMINISTRATOR

By Leo Lyons

MR. LYONS: Thank you very much, Dr. MacEachern. I will bring to you very briefly the thinking we have done at St. Luke's in meeting this problem of adequate care of patients.

I appreciate the opportunity of having even a small part in your program. Understand, I come not as a technician,

nor one skilled in the administration of anesthesia, but I do realize the important place the nurse anesthetist has in the administration of the hospital. Members of your profession have the same interest in the welfare of the patient as has the attending physician or surgeon, who is responsible for guiding and directing you in your activities, or your care of the patient, while the patient, in turn, is under his care.

The discussion has been pointed toward the nurse anesthetist who plans for tomorrow's responsibilities. I want to say this, which is in repetition of the comment Dr. MacEachern has made to you, although we have in no way exchanged notes: I am one who believes that responsibility will fall on the shoulders of those who are prepared to accept it. Therefore, it would appear to me that the place of the nurse anesthetist in the future will be determined by the preparation which you make to assume this new responsibility and I think, without question, as we get away from the war, we are going to find improved methods, improved treatment, and greater responsibilities than we have yet experienced.

The assignment given to me asked me to direct my comments to three questions: First, should the nurse anesthetist be responsible for all anesthesia and gas therapy equipment?

It is my personal opinion that whereever possible, and certainly in large hospitals, all anesthesia administration should be under the direct supervision of a person trained in the practice of medicine. At St. Luke's Hospital, for example, we have a doctor in charge of the anesthesia department. In addition, we have provision for five nurse anesthetists. However, in many hospitals, particularly in small hospitals, it isn't practical nor possible to have a doctor anesthetist and I think, in general, the use of a nurse anesthetist as director in those situations has proved very satisfactory.

The second question: Should the nurse anesthetist turn in the daily charges for administration of the anesthetic, the drugs, and therapy gases?

If I interpret this question properly, my reply would be this: I believe the anesthesia staff should be on the hospital payroll and charges made should be in accordance with the schedule arranged through consultation with the department of anesthesia and on the basis of established fees.

To be sure, there are those who do not agree with this practice. They feel that the doctor anesthetist should work on a fee basis. We are in process of exploring this situation, as it relates to our particular problem at St. Luke's. Frankly, in discussing this phase of the problem, there are many of our attending staff who do not agree with that practice but, as I state, we are exploring the possibilities.

I believe that neither a doctor anesthetist nor the hospital should charge a professional fee, as such, for the service administered by the nurse anesthetist and then pay the nurse on a straight salary basis. I am advised that in some cases that does occur. It would appear to me that if charges are made on a professional basis and for similar service, that it makes very little difference ethically, or technically, whether that charge for professional service is made by the doctor or by the nurse.

Then the third question: Would it be more effective to the patient, the surgeon, and the anesthetist to have a night anesthetist on duty to give anesthesia and surgery, emergency and delivery room care, who is responsible for the administration of oxygen therapy, rather than to have a tired anesthetist on call?

I presume that that question relates to the advisability of having a person on call at night, as against having the doctor anesthetist on for the full day's schedule, leave the hospital, and be

called back.

At St. Luke's, we have established a program so that there are trained anesthetists living in the hospital who are on duty at night and although they are permitted and provided sleeping quarters, they are there with the distinct understanding that they are on call during the whole night, or the entire evening, or night period. We believe that that procedure gives much better protection to the patient; it certainly provides the medical and surgical staff with the facilities and assistance to which they are entitled. Therefore, we believe that the full twenty-four hour coverage is practical and possible.

Then, in the final sentence of the communication, I find this: "We would appreciate knowing what the administrators would recommend as to what our plans should be for future responsibilities."

Now in response to that, I can only go back to my statement and reiterate the statement made by Dr. MacEachern. I think that in any profession, whether it be in anesthesia, whether it be in hospital administration, whether it be in the nursing service, whether it be in medical care, that we are going to be able to meet the challenges only to the extent that we prepare ourselves and keep on our toes and awake to the possibilities that lie in that particular service.

CHAIRMAN MacEACHERN: Before we hear the next speaker, are there any questions you want to ask Mr. Lyons?

MRS. STEPHENSON: Talking about charges, should they be put in by the nurse anesthetist? I wrote that. I meant to say that. We are very glad to hear your reaction to the interpretation you gave to it, but my thought was, should the anesthesia department be responsible for turning in to the office charges for the anesthesia that is given, as the surgical supervisor turns in to the office the name of the patient, the type of operation, etc., for the bookkeeping department; although the fee that is charged by the hospital is not given to the anesthetist, it goes on the patient's bill, and the same thing holds true with gas therapy. If a certain patient had a couple of tanks used and a tent, who turns in those charges? Would it help to have the anesthesia department, whether it be headed by a physician or by a nurse anesthetist, assume that responsibility?

MR. LYONS: I can speak only for St. Luke's. We have in our hospital a procedure by which all departments turn in their charges, whether it be x-ray or whatnot. That is a routine procedure. We establish the charges, then we go a little bit further than that and where there is an indication, as might be evidenced in the department, of the inability of the individual, because of straightened circumstances, to meet those charges, modifications are recommended. But technically and as a routine procedure, the department institutes the charges on the basis of our fee table.

Does that answer your question?

CHAIRMAN MacEACHERN: I think she has in mind: Should the operating-room supervisor do it, or does the nurse anesthetist?

MRS. STEPHENSON: Does the department take care of the charge that is to be made to that patient?

MR. LYONS: Miss McConnell, speaking for the Nursing Department, can probably answer that more exactly, but as a basic policy, the department rendering the service sends in the charge. The matter of charging might be allocated to the surgical supervisor or to the anesthesia department.

MRS. STEPHENSON: Mr. Lyons, that first question in the letter that I sent was, "Should the nurse anesthetist be responsible for the equipment of the anesthesia department and gas therapy, too?" I wasn't thinking of the nurse

anesthetist or the physician, not knowing your hospital department was headed by a physician. I was thinking of the situation in some places where the nursing department or central service takes care of equipment and I wished to know: Is it advisable for the anesthesia department to take care of all equipment? I know in some places the surgical supervisor takes care of the anesthesia equipment, rather than the anesthetist.

MR. LYONS: I think, as a general practice, the department using the equipment should be responsible for its care. We have many mechanical complications, and if we can get far enough away from the war so we can get mechanics who can take care of complicated equipment, I'd like to have someone on my staff who does nothing but keep our equipment up, whether it be therapy equipment, operating-room tools, or whatnot.

I think as a general practice the department responsible for the use of the equipment should assume responsibility for its upkeep and its care.

MRS. STEPHENSON: Is your Medical Director full time and if so, what is your bed capacity to enable you to have a full-time medical man?

MR. LYONS: St. Luke's Hospital now is rated as 550 beds. We have some 60 or 65 or 70 bassinets. We do have a full-time department head. He is assisted by a medical man. Our department head is in military service. His assistant, who is an M.D., is Acting Director and, in addition, we have another doctor in that department. But specifically, our hospital has 550 beds. There again I think it depends to a great extent upon the type of work you are doing. We do about 60% surgery at St. Lukes—between 50% and 60% —which, in turn, brings a much greater demand on the anesthesia department.

CHAIRMAN MacEACHERN: Our next leader, as Director of Nursing Education, is Miss Madeleine McConnell. She is Director of School of Nursing and Nursing Service at St. Luke's Hospital.

THE DIRECTOR OF NURSING EDUCATION

By Madeline McConnell

Before I speak on possibilities for the future, I would like to speak on relationships that exist between the nurse anesthetists and the nurses. Of course, they are very close, and I have tried to divide those under four headings and then, lastly, the planning.

First, what the nurse anesthetist may expect of the nursing department and second, what the nursing department may expect of the nurse anesthetist and of the anesthesia department; third, good interprofessional and interdepartmental relationships; fourth, basic professional preparation. I think we have all four of those in common.

There are certain very definite things that you, as anesthetists, can and should expect of the nursing department and particularly, as nurse anesthetists, you have interests beyond just the nursing department; you have interest in the school of nursing. You want to know that the entrance requirements are adequate, and you also want to know that the curriculum of the nursing school, both in theory and practice, meets the standards set by the professional accrediting bodies.

You want to know, too, that the supervision of clinical practice is adequate, and you want to know that the evaluation of student progress and student graduation meets the qualifications set by both the State Board of Nurse Examiners and the professional accrediting agencies.

As to the nursing service, you want to know that there are good administrative policies in the distribution of nurs-

ing care. You are very much interested in that.

If there is a school—and, of course, in some hospitals there isn't a school—you want to know that there is a proper proportion of graduates to student nurses and to auxiliary aides. Of course, again, if it is a hospital that doesn't have a school, you are interested in the ratio of graduates to auxiliary aides.

You want to know about adequate supervision.

Then, there are certain specific things that you want to know in regard to what the nurse is going to do in relation to the patient who is coming to the operating room. You want to know that there is a thorough understanding of preoperative orders and that they are promptly administered.

You want to be sure that there is a proper preoperative psychological condition of the patient maintained, as far as it is possible through nursing care and control of the environment.

You want to know that the patient has been conveyed to the operating room in the best possible manner. That generally comes directly under the nursing department. In some hospitals that is not true, but I think in the majority, the nursing department is responsible for taking the patient to the operating room. In our hospital, one of the medical staff always accompanies the patient back to his ward.

The operating-room nursing staff takes charge after the patient is taken to the operating room, and the patient and the records are put into the hands of the anesthesia department. Then comes the necessary integration of services in the operating room. The nursing service "sets up" for the case, supervises the room and provides a scrub nurse for the surgeon. The supervisor of the room must not only be alert to the needs of the surgeon and his assistants, but to the possible needs of the anesthetist as well. You know, as do we all, that the anesthetist cannot leave the patient for an instant. There may be some emergency in which she may need assistance.

In postoperative care, both the surgeon and the anesthetist rely upon the nursing department for close postoperative observation based on knowledge. There, again, you want to know that the essential educational background is adequate and also that the selection of students has been such as to assure adequate care.

In a fine article in the August 1945 issue of *Nursing,* Miss McMahon and Mrs. Fife gave the four main objectives in the care of the anesthetized patient, all of which nursing students must be taught and nursing service must know.

First, normal function of the respiratory system must be maintained. Nurses must know how a patient should be placed in bed when the patient is brought back from the operating room and what conditions to anticipate and provide for, such as prevention of circulatory depression and protection against physical injury. That is the thing we must most impress on young students: prevention of postoperative atelectasis.

On the other side, what may the nursing department expect of a nurse anesthetist? I may not be accurate on this side of it and I would be glad to have questions. We would like to see that the nurse anesthetist, or that all anesthetists have a certain amount of supervision of preoperative cases.

Second, there must be a careful explanation of new anesthesia procedures. You all know that there are different new anesthetics requiring unprecedented treatment.

Third, teaching or assisting the course of lectures given the student nurses on anesthesia. I think every school probably—at least, it is true of our school—has a course of lectures given by the Director of Anesthesia—in our case, Dr. Jacobson. I am sure that is true in all other good schools. It can be given

by the nurse anesthetist, or by the doctor, if there is a doctor in charge of the department.

Then, cooperation with the supervisor of the operating room must be established to insure smooth running of the department. That cooperation, as far as the supervisor is concerned, is related to two different types of work; one, the scheduling of cases. The supervisor in many hospitals is responsible for the schedule book, but, of course, she must consult with the chief anesthetist prior to scheduling cases, because we have to know that there is an anesthetist available, as well as adequate nursing service.

Cooperation must be assured in each individual case—who is assigned to each duty and so on. Particularly, the work of the nursing personnel during each individual operation must be coordinated in the operating room. The surgeon is the responsible manager in the operating room. By law, he is responsible for all care of the case. All activities must be coordinated among the nursing personnel under his general direction.

Next, comes follow-up on surgical cases, as to the after-effects of the anesthesia. It is very important that the anesthetist be aware of the kind of recovery each patient makes.

Good interprofessional and interdepartmental relationships are primarily implemented by the fact that although several professions cooperate in the hospital for the benefit of the patient, each is responsible for the functioning of its specific sphere of knowledge. That is the basis of good hospital administration.

Good interdepartmental relationships must be constantly functioning. They depend upon willingness to understand, share, adjust, and help. A firm understanding of departmental boundaries should exist, but kindliness and helpfulness must also thrive in an institution entrusted with the care of the ill and injured.

Finally, there are certain professional relationships to be maintained, peculiar to the association of nurses in general, or, pertaining to the professional responsibilities of the American Nurses' Association and the American Association of Nurse Anesthetists.

In the first place, the American Association of Nurse Anesthetists is interested in maintaining high standards and facilities for basic nursing education. In its efforts to elevate the nursing profession in every way possible for the benefit of the public, you, in turn, have a stake in this project because its educational requirements form the basis of your professional standing. We can't speak of the nurse anesthetist except as professional; it is a specialty beyond the basic nursing level.

Thus, the nurse anesthetist should continue her membership in the American Nurses' Association. Of course, she does continue her registration, but so many of the problems that are basic in the American Nurses' Association are basic, too, to the welfare of the nurse anesthetist. Both groups have a proud record in the war services. Of 3,000 members of the American Association of Nurse Anesthetists in 1944, 272 were in the military services; with 270,000 active registered nurses there were 70,000 in service.

The American Nurses' Association is interested in the nurse anesthetists as a field of specialization. We watch with interest and a certain amount of pride your development. We wish you great success and we feel, too, that the Nurses' Association, per se, has a responsibility to see that applicants come to you soundly prepared and, likewise, we are interested in the sound development of your field.

I would like to say just a word about post-war planning. The amount of knowledge available today has increased

so much over that available in 1920, educational requirements for both basic nursing training and for advanced groups, such as the nurse anesthetists, are going to be higher. You probably know that the National League of Nursing Education has worked out certain postgraduate courses which are to be given under the direction of universities. In many ways, the course which you offer is sounder than some postgraduate courses in nursing which have been offered on a clinical level. I am sure that there will be a continued development in the preparation and work of the nurse anesthetist.

I would be glad to answer questions.

MRS. RIDLEY: What amount of teaching do you think a student nurse should have in regard to anesthesia?

MISS McCONNELL: I think our students have five hours in their surgical course; the course is integrated with medical and surgical subjects divided among the specialties.

MRS. STEPHENSON: When the anesthetists teach the nurses, are they considered to be on the nursing school faculty?

MISS McCONNELL: We have a limited number of faculty people paid entirely by our School of Nursing. We accept by courtesy and are most appreciative of doctors' lectures, and the anesthetist comes under that set-up; also the dietitian. They are not paid. This service is part of their relationship with the hospital. Some day, the situation may be different, but that is the way it is at present, and I think most hospital schools work that way.

MRS. STEPHENSON: Miss McConnell mentioned that her hospital's Nursing School expects from the anesthetist some lectures, or orientation, on the new drugs as they come out, insofar as they would affect nursing care. How does your hospital provide for these lectures to the nursing group? Graduate nurses are included, I assume, as well as undergraduates. Do you have a scheduled refresher course, or is it an interdepartmental project?

MISS McCONNELL: We have a staff educational program. If a new anesthesic is developed, Dr. Jacobson writes out in detail whatever necessary instructions our head nurses need to have, and these are sent to each ward. When he feels it is necessary to explain matters to the nurses in a body, we are always glad for them to gather.

MRS. STEPHENSON: Do you have interdepartmental meetings in your hospital where you call in the heads of all the departments to discuss your problems, or where you say, "Will everybody come in and we will discuss this or that department?"

MR. LYONS: No, we do not. Up until a year or a year and a half ago, we had monthly meetings of department heads, but not specifically as you have outlined. However, because of shortage of personnel and many other pressures, we eliminated that procedure.

CHAIRMAN MacEACHERN: I believe it is a good thing, though; don't you?

MR. LYONS: I think it is a good practice, and it is especially valuable when you can get related departments together. Our plan was to call all department heads in.

MISS SULLIVAN: May I ask Miss McConnell to elaborate on the suggestion she made regarding the nurse anesthetist in supervision of preoperative medication. What did you mean by that?

MISS McCONNELL: In the supervision of preoperative medication, there is some supervision of the writing of orders. In a large hospital, where there are a great many young internes coming in, sometimes the internes do not understand what the general policies of the anesthesia department are in relation to each surgeon and I think the anesthesia department gives some instruction to the internes, which is helpful.

CHAIRMAN MacEACHERN: We will hear now from Dr. J. J. Moore. He is past president of the Chicago Medical Society, treasurer of the American Medical Association; a pathologist by profession, pathologist to several hospitals in this city, as well as consulting pathologist to a number of hospitals outside. He knows hospitals very thoroughly. He also knows anesthesia; I don't know whether he could give an anesthetic, but he knows what a good anesthetic is.

THE PHYSICIAN
By Josiah J. Moore, M.D.

I think the days of the general practitioner and the inexperienced interne giving anesthetics are finished, although when I go out to some of the small hospitals in the Chicagoland area, I still see the surgeon waiting for his friend to come up to give that anesthetic. Unfortunately, in those small hospitals, we do not have a nurse anesthetist.

There is no city in the country that isn't planning a new hospital under the Hill-Burton $100,000,000 hospital bill. Probably in every hospital that you are connected with, they are planning a wing, or a few extra stories, or something additional in the hospital, so that that $100,000,000 will be expended on many hospitals.

Then, we are having hospital insurance, and I think as we go through the country, at the present time, anywhere from 15% to 25% of the patients in the hospitals are having their hospital bills paid by hospital insurance, and soon we are going to have medical insurance. We have it in some states now, and just today, I heard that Illinois has a plan all ready to give to the Illinois Medical Society and Illinois will probably have it running within a year.

Since in most hospitals (at least practically all I am connected with) about 60% of the work is surgery—being a pathologist, it seems to me it is all surgery!—we are going to have more work for the nurse anesthetist than we have ever had in the past. I think we have now a little over 3,000 full-time nurse anesthetists, don't we? You know that as we have new hospitals, your positions are going to increase. As positions increase, of course, the thing that most nurse anesthetists, as well as physicians, hospital administrators, and the superintendents of nurses are interested in is that it makes a competitive field and we may have an increase in salary —which most of the people in the United States seem to be interested in at the present time.

My connection with the department of anesthesia has been mainly in the role of pathologist. However, just the other day, I was put upon a state committee which was requested to approve various schools in this state for the G.I. Bill of Rights, and among others, we had schools for nurse anesthetists. The committee I was on lost the privilege of approval of these schools for nurse anesthetists; it will be turned over shortly to a committee on the training of nurses, I believe. Personally, I think it should have been left with our committee. I don't want any more work for that committee, but that committee did approve the medical librarians, occupational-therapy, physical-therapy, clinical laboratory, and x-ray technicians, and I think that nurse anesthetists should also come under that committee.

I am bringing this up so that you can discuss it. Being nurses, you may take exception to my argument, but I think we have some good arguments in favor of it being under this committee because you are all in hospital work under the physician, exactly as are x-ray and clinical laboratory technicians, and those others mentioned.

I was asked by several of the hospitals in which there are nurses' schools to see what we could do about having those schools approved. I did what I

could and I think there are now several such schools in Chicago approved under the G.I. Bill of Rights.

It is very important that those who have schools have them approved under the G.I. Bill of Rights because then any of the nurses who have served in the armed forces can come back and have their tuition paid to the school and receive $50 or $70, or the amount of money to which they are entitled each month.

CHAIRMAN MacEACHERN: Dr. Moore, we must thank you for your remarks.

Are there any questions for Dr. Moore now while his words are fresh in your minds?

MISS SULLIVAN: Who assumes the legal responsibility for a case in event that a medical man or medical anesthetist is in charge of the department? Is he responsible, or does the surgeon retain his responsibility?

DR. MOORE: The surgeon still retains his responsibility.

Here is a question I think is yours, Miss McConnell: "If it is so necessary for close cooperation between the nursing department and the nurse anesthetist, is it not equally necessary and important for the same relationship between the physician and the nurse anesthetist to exist?"

DR. MOORE: Well, under that, there is a very touchy problem at the present time and it has to be faced. As a pathologist, I am somewhat in the same position as the physician anesthetist. Why is that? Because under the Blue Cross Plan, in some places, the hospitals are selling medical services as hospital service. Where the nurse was giving the anesthetic the hospital was charging for it and the physician was putting his own personal fee in, when he gave it. One was called "medical service" and the other was called "hospital service."

I think there should be just as close a relationship between the physician anesthetist and the nurse anesthetist as there is between any two departments in the hospital, and between individuals in the same department, such as technicians in my laboratory and myself.

CHAIRMAN MacEACHERN: You said they should cooperate, but how can they cooperate?

DR. MOORE: If I could talk with the physician anesthetists and tell them what a fine group we had here today and how anxious it is to serve mankind —just as anxious as the physician—I think it would help. We ought to have two or three of them on this platform today.

I don't know why physician anesthetists should not work with you. Down at St. Luke's, where they have nurse anesthetists and physician anesthetists, they get along together very well, and where there is a hospital with no physician anesthetist and only a nurse anesthetist, the nurse anesthetist gets along there very nicely with the physicians on the staff and the physician in charge of the department.

CHAIRMAN MacEACHERN: Dr. Moore, I think one of the best ways to get this thing settled is for the nurse anesthetist to try to give the physician anesthetist every possible cooperation and service. I think that you will break down all kinds of barriers, if you try to serve each other thoroughly, and give the physician anesthetist a service that is indispensable to him.

CHAIRMAN MacEACHERN: "Can the College of Surgeons in some way make the doctor anesthetist equal in training and education to the trained nurse anesthetist?"

Well, I say that the American Board of Anesthesiology has to assume that responsibility. The American Board of Anesthesiology has to see that physicians doing anesthesia get proper training in their special field. That is the answer to that question. It is not our particular responsibility, other than a cooperating agency.

DR. MOORE: The College of Surgeons is just trying to make good hospitals and all doctors practice good medicine and they are doing a good job. Dr. MacEachern and the American College of Surgeons have done a great deal to advance the cause of good medicine in the last twenty years.

CHAIRMAN MacEACHERN: Before we take the rest of the questions, I think we had better hear from Dr. McNealy, who is chief surgeon at Wesley Memorial Hospital. He is also Professor of Surgery at Northwestern University Medical School and he is chief of the surgical service at the Cook County Hospital. He is one of the most practical men in these problems that I have ever known.

THE SURGEON
By
Raymond L. McNealy, M.D.

I have worked for a long time with nurse anesthetists in both Cook County Hospital and Wesley Hospital. It seems unfortunate that you get excited about whether or not nurse anesthetists want physician anesthetists in the same group. They have worked together in both hospitals and there seems to be the heartiest cooperation. Dr. Brown at Cook County and Dr. Karp at Wesley have both worked in harmony with the nurse anesthetists and have been of much value in training and counseling.

Physician anesthetists are not numerous enough to ever invade the field that is so broad for nurse anesthetists. It seems to me that those who take up anesthesia as a specialty of nursing should be very happy to have a physician anesthetist in the hospital to take over delicate problems of responsibility which have a medico-legal bearing.

Constructively, I would like to make a few suggestions on how a nurse anesthetist can make herself particularly valuable. First, it should be her responsibility to know about the patient she is putting to sleep. She should thoroughly read the patient's record, know what the preoperative medication has been, and know exactly what operation is to be performed. She should be able to give this information promptly if the surgeon desires it.

Second, she should do those things which lead to the protection and safeguarding of the patient and then to do an efficient job of giving the anesthesia.

Inhalation anesthesia is the common one used in civil practice. By following the above suggestions the anesthetist has a wonderful opportunity for efficiency and progress in this particular field.

There is nothing that will bring more credit to your organization than a fine group of trained nurse anesthetists doing a splendid job in their respective hospitals.

CHAIRMAN MacEACHERN: We have a lot of questions here. "Is the nurse anesthetist responsible for writing the operative record following an operation?"

Well, of course we may have different opinions. How many think she is?

. . . No hands shown. . . .

How many think she isn't?

. . . Quite a few hands shown. . . .

How many think she should write up what happened at the operation? How many have to do it?

. . . About 30 hands shown. . . .

How many think she shouldn't?

. . . About 60 hands shown. . . .

Who should write it? The physician, the surgeon or an assigned resident? Perhaps the surgeon dictates it to a secretary, or his assistant; preferably the surgeon. Dr. McNealy?

DR. McNEALY: The surgeon is entirely responsible for it. He is the only man who knows what was done.

CHAIRMAN MacEACHERN: Now Dr. Moore: "What is an anesthetic

death and what are some of the pathological findings in an anesthetic death?"

DR. MOORE: "What is an anesthetic death?" Well, an individual who dies in Chicago or Cook County during an operation is a coroner's case and the coroner's physician comes in and makes an examination, takes a sample of blood and if he finds enough anesthetic in the blood to have caused the patient's death, he calls it an anesthetic death. In four or five cases, we found other causes of death, so that the patient did not actually die an anesthetic death, but if you find enough anesthetic in the blood so that the patient could not live under that amount, it is called an anesthetic death.

"What are some of the pathological findings in an anesthetic death?"

We find nothing except the amount of anesthesia in the blood. You may find very few changes. There will be a few minor changes in the organs. That is what makes it so difficult, and that is the reason that we have a coroner's chemist make the examination. If we don't find enough of that anesthetic in the blood, we say that the patient did not die from the anesthesia.

CHAIRMAN MacEACHERN: I want to introduce your next speaker, whose talk will be followed by a Round Table discussion. Miss Palma Anderson is Chief Anesthetist of the Deaconess Hospital in Minneapolis. She will speak from the nurse anesthetist's point of view on this important topic of the future of the profession.

THE ANESTHETIST
By Palma Anderson

MISS ANDERSON: I am glad Dr. McNeely spoke a little in our favor just when the discussion was getting a bit heated here on the relationship between the medical and the nurse anesthetist. Those of us who have had the opportunity to work with medical anesthetists don't feel put out of our field. We feel we have very strong support and our idea is not to try to place ourserves in the medical anesthetist's place, but to fill our own place in the field.

Many remarks have been made about the responsibilities we have and I shall start my discussion this afternoon with that word. The responsibilities of the nurse anesthetist are to prepare herself adequately for her service in the field of anesthesia. This begins with the education of the student who wishes to acquire the knowledge expected of her in order to serve in this field.

The schools of anesthesia which prepare students for eligibility in the American Association of Nurse Anesthetists follow a minimum standard of qualifications set up by the American Association of Nurse Anesthetists. This is only an outline form and it does not dictate to the school that it has to follow a definitely scheduled form of teaching. It brings out the importance of the vital divisions necessary for complete teaching of the nurse anesthetist. For instance, it outlines the minimum requirements for teaching as set up by the American Association of Nurse Anesthetists. It specifies the subjects to be taught, so that one may determine whether or not a hospital is properly staffed with instructors and faculty to do the requisite teaching, and if the surgical service is varied enough to provide student anesthetists with full experience in different types of surgery; if they are using a variety of anesthetics; whether training in the use of each of the anesthetics is sufficient and if adequate equipment is available to perform these duties.

Also, a "Curriculum Guide" has been set up to aid directors of schools of anesthesia, in setting up well-balanced schedules for teaching to meet the demands in the individual schools.

I am not a member of a teaching school and not prepared to go into detail as to the organization and maintenance of a school of anesthesia. As a member of the Board of Trustees, I do know that the American Association of Nurse Anesthetists has set up a program for the schools whereby they may conduct courses to fulfill professional requirements.

The other problem we have to meet, besides preparing the nurse anesthetist, is the provision of help for the nurse anesthetist who once gave anesthetics but who, for some reason or other, discontinued, and now wishes to come back into the profession; or for the nurse who has had unsatisfactory or inadequate training in the field of anesthesia.

The problem we find here is to set up a short-term school, or refresher course, where these nurses may continue their studies and qualify as anesthetists on a contemporary basis.

Here, perhaps, it would be profitable to make a survey of the schools of anesthesiology to see if there are any especially prepared to take care of such irregular situations. For instance, one nurse may never have had instruction in one particular anesthetic such as cyclopropane. If there is a school using that anesthetic a great deal and if it has enough work and a proper staff, so that the nurse could get instruction in the use of this agent, a solution to her problem would be provided.

Then there is the nurse anesthetist who is a member of the American Association of Nurse Anesthetists, qualifying under the requirements established by the Association, but who wishes to extend her education. She may wish to qualify for teaching in schools, or she may feel the need of further instruction without any thought of teaching.

This may be a good time to bring this subject up as colleges and universities are giving much thought to schooling for the returned service man and woman. Also, we have our anesthetists coming back from service, who are desirous of continuing their training. It may be that if, at this time, we could present an elective curriculum which would include suitable subjects in the field of anesthesiology, such a program could be established.

Also, I believe we have a responsibility to our nursing schools. Miss McConnell brought something up about our cooperation with the nursing school. I don't know who is responsible there for arranging classes between the anesthetists and the nurses, or the nursing personnel on the floor—whether it is the training-school office or the nurse anesthetist—but I don't believe it suffices to have just a certain number of lectures. I do this particular teaching in our hospital and yet I know that unless I direct the person individually, at the time the patient is brought back from surgery, the student does not remember everything we may have told her in the short period of classroom instruction that she receives. It is probably given to her early in the training, when she is not familiar with surgical cases. She is given so many things to learn in a classroom that unless she applies this instruction to an individual case, it doesn't mean a great deal to her. I think we owe that responsibility to the nursing personnel on the floor—that we tell about the patient's condition when we bring the patient down; tell what the patient's condition has been while in the operating room, and any order that the doctor may have sent down, even though we write it on the chart.

We should also tell it because it may not be read on the chart soon enough. We should also give definite information about the patients' general condition, so that in a few minutes, when we get back to surgery, a nurse won't call up and say, "The patient's blood

pressure is such-and-such." You ask them, "Did you look at the anesthetic records?"

"No," the nurse replies. If we give those orders when the patient is brought down and remind the nurse to read the chart, she should know pretty well the condition of the patient.

This is a repetition of much of the discussion that took place this morning, but it is our responsibility and if we can meet the demands of the student and the anesthetist who has only a limited service, then we will be prepared to serve the patient, the surgeon, and the hospital.

(Continued from page 23)

Vasoconstriction. *Anesthesiology*, Nov. 1940.
Lundy, John S.: *Clinical Anesthesia.*
Maxon, Louis H.: *Spinal Anesthesia.*
Nosworthy, M. D.: *Anesthesia.*
Richards, R. K., and Menaker, J. G.: The Role of Picrotoxin in the Treatment of Acute Barbiturate Poisoning. *Anesthesiology*, Jan., 1942.
Rochberg, Samuel, and Apgar, Virginia: The Combined Use of Ephedrine and Epinephrine in Spinal Anesthesia. *Anesthesiology*, Jan., 1942.
Stearns, Frederick, and Co.: *Neosynephrine Hydrochloride.*

Mrs. Mae B. Cameron, Chairman of the Tri-State Nurse Anesthetist Assembly, reports excellent speakers are scheduled to appear on the program. Meetings will be held May 1-3 at the Palmer House, Chicago. Many of the papers presented will be published in subsequent issues of THE JOURNAL.

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This page is being reserved for classified advertisements of any nature, with particular emphasis on "position open" and "position wanted" insertions. A maximum of 40 words is accepted for each $6 single insertion, remittance to accompany copy. Orders should be received on the tenth of the month preceding date of issue. Deadline for the August 1946 issue is July 10, 1946. Address:

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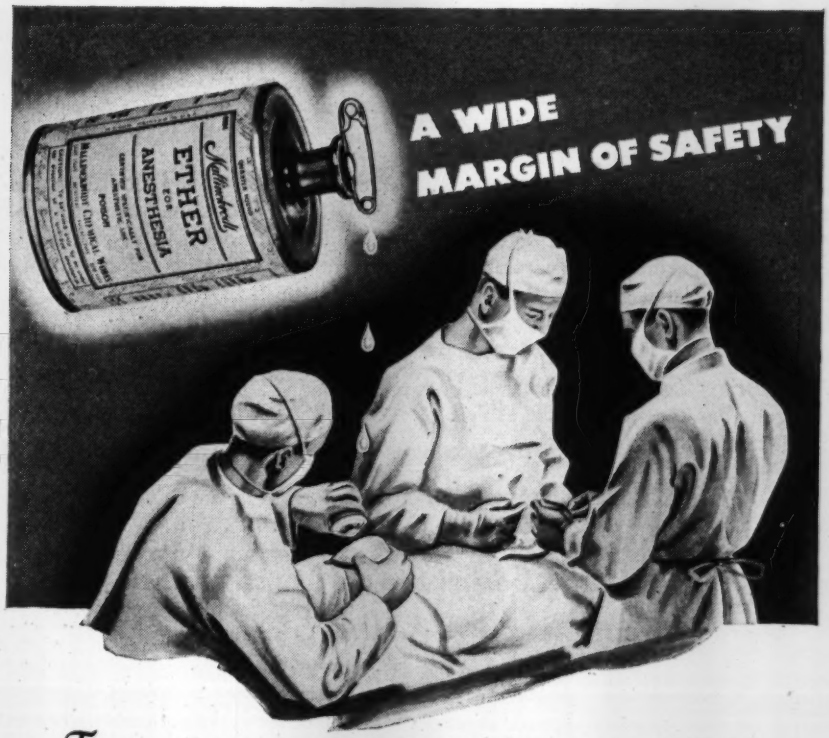

Two of America's leading anesthesiologists recently stated: "Drop ether still remains one of our safest anesthetics."[1]

Safety of the anesthetic agent is of particular importance for the patient in shock. In such cases, "the safest agent, for experienced and inexperienced anesthetists alike, is ether Its value has been proved in nearly 100 years of continuous use during which many million operations must have been performed. It is the agent with which we have the most experience, which has the widest margin of safety, which has been most carefully investigated both in the laboratory and under clinical conditions."[2]

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1 Editorial: Anesthetics Old and New, Anesthesia and Analgesia, 23:44, Jan.-Feb. '44.
2. R. Blair Gould: Anaesthesia for the Patient in Shock, Anesthesiology 5:129, March, '44.
3. Major C. F. McCuskey: Anesthesia At The Front, The Military Surgeon, April, '44.

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Annual Report of the Committee on the Trust Fund

To: Board of Trustees of the A.A.N.A.

In the semi-annual report of the Committee on the Trust Fund submitted to the Board of Trustees, a resolution was proposed regarding the Trust Fund which was to be presented to the general membership in the event an annual meeting would be held.

The meeting having been cancelled, we suggest that the proposal be tabled until the next annual meeting with the recommendation that a notice be published in THE JOURNAL preceding that meeting. This notice, in effect, will inform the members that a discussion and vote will be held regarding the Trust Fund.

Respectfully submitted,
Gertrude Fife
M. Lucile Goodman
Myra Van Arsdale, Chairman

Annual Report of the Committee on Examinations

To: Board of Trustees of the A.A.N.A.

Directly following the 1944 Annual Meeting of the American Association of Nurse Anesthetists, at which the examination program was approved, the schools were contacted with an invitation to participate in the program by submitting examination material used in their schools. We had excellent response from this request. A complete report will be found on page 31 of the February, 1945, issue of THE JOURNAL.

During the time the committee was being appointed and we were waiting for recent material from the schools, the routines, forms, and an "Outline of Subjects" were worked up and sent to the members of the Committee for recommendations.

The examination material from the schools was distributed among the members of the Committee. Each member was given a specific assignment according to the tentative "Outline of Subjects." They were requested to compile a tentative set of examination questions on this assignment (from this material) for the first examination. After consultation with educators, the objective type test seemed to be the best type for our needs. This type test, in the main, was, therefore, adopted.

A three-day meeting of the Committee was held in Chicago, February 1945, at which time the tentative sets for the first examination were reviewed, revised and approved by the Committee. The forms, routines, and Outline of Subjects were studied, revised, and later approved by the Committee. At this meeting, the members of the Committee were instructed to proceed to make up two sets of examination (2nd and 3rd) on their assignment (their part) so that there would be an extra set ahead at all future times. This was done as an added precautionary meas-

ure and an added protection to all concerned with the examinations.

As per the authorization of the Board of Trustees, the date of the first examination was set, the hospitals, and the proctors were chosen by the Executive Secretary and the Chairman.

The first examination was given June 4, 1945. There were 92 who took this examination. One candidate was disqualified. Her application had not been accepted by the Committee on Credentials, and she had not been authorized to appear for this examination. By a vote of the Board of Trustees, she was disqualified with the privilege of taking the next examination, providing her application was approved by the Committee on Credentials. Omitting the examination of the candidate who was disqualified, 91 papers were graded; 89 passed the examination with an average of 70 or above; two failed with an average below 70. Each of the five PARTS was graded by the Committee member who made out the questions and was responsible for that PART of the examination with the exception of PART IV. As the original Committee was composed of five members and the duties of the Chairman were very heavy at this time, Mrs. Stephenson offered and was authorized to make out the examination on PART IV. This PART was graded by Sister Rudolpha (whose appointment was made after the February meeting) and the Chairman.

In the interval between the first and second meetings of the Committee, the two sets of examination questions requested of the members were distributed among the members (as would an examinee), to comment upon and then sent back to the member who made them out for further revision.

The second meeting of the Committee was held in Chicago on August 12, 13-14, 1945. The results of the first examination were studied. The two future sets of examinations were studied, revised and approved. The routines, forms, "Outline of Subjects" and sample set of examination questions were reappraised. It was decided to leave the "Outline of Subjects" as it stands for the time being (until the curriculum now under revision is adopted.) A few minor changes were made in the forms and routines.

In some instances there has been confusion in the minds of the candidates and within the schools as to the exact purpose and functioning of the examinations. This was very ably clarified by our Executive Secretary in the August, 1945, issue of THE JOURNAL (page 35). In some instances there has been complaint about the delay in the disposition of the applications. The time factor on applications also has been explained in the article on page 35 of the August JOURNAL. Lois Childress, secretary of the Texas State Association and a member of this Committee, was instructed to bring up for discussion at the August meeting of the Committee, a recommendation by the Texas association that the application routine through the states be eliminated. After discussion, it was the opinion of the Committee that this move, if the approval of the majority of the organized states could be obtained, would materially speed up the application routine.

The Executive Secretary was instructed to compile statistics from and on each examination. These cumulative statistics will be of great value to the Committee on Education in appraising the weakness and strength of the schools. These statistics also should be of value in the school's approval program.

Recommendations:

1. That the organized states be asked for a decision on eliminating the application through the state committee on credentials.

2. That we start to secure permanent places in which to conduct the examinations so that we may institute the oral-practical part of the examination in the not too distant future.

3. That the Committee on Curriculum, after the adoptation of the new curriculum, make its recommendations and assist this Committee in setting up the division of subjects for the examination according to the newly revised curriculum.

4. That the Committee on Examinations be authorized to hold a meeting (at their discretion) between each two examinations until the program is well under way.

The Committee on Examinations wishes to express its appreciation for the cooperation and assistance which has been given to this Committee and this program by Miss Campbell and the personnel of the Executive Office.

Respectfully submitted,
Marie Brown
Esther Myers Stephenson
Sister Rudolpha
Lois Childress
Jessie Compton
Miriam G. Shupp, Chairman

Annual Report of the Committee on Credentials

To: Board of Trustees of the American Ass'n of Nurse Anesthetists

This past year, 1944-1945, has been a busy year for the Credentials Committee.

Your Executive Secretary has explained that the examination program went into effect October 15, 1944. Needless to say, we were swamped with applications, many from applicants who had "put off" applying for membership in the organization for years, and to the surprise of many, they found they were not eligible for Active Membership without first taking an examination.

The Committee has been criticized this past year, but to the best of the Committee's ability, their decisions have been based with all fairness upon the rulings established by the American Association of Nurse Anesthetists.

Following is the report of this Committee:

Endorsed—old By-laws	159
Deferred—old By-laws	20
Eligible for Examination	275
Rejected	42
Accepted for Inactive Membership	112
Rejected for Inactive Membership	2
Board Study	6
	616

Respectfully submitted,
Lucy E. Richards, Chairman
Myra Van Arsdale
Myrn Momeyer Grosart

Special Notice to the Membership

From the Committee on Nominations:

All state presidents, and individual members who wish to do so, are asked to mail names of candidates for the Board of Trustees of the American Association of Nurse Anesthetists to the Nominating Committee immediately. Four Board members are to be replaced.

Candidates may be selected from your own state, or elsewhere, as desired. In offering names for the Board, it is suggested that only those members be considered whose past work has been outstanding and whose personalities include such attributes as executive ability, leadership, ambition, capacity for getting along with others, and who

have the requisite time to devote to the work. It should be kept in mind that future officers are drawn from Board members.

Also to be nominated by this committee are the president, first vice-president, second vice-president, and treasurer. To qualify for the first three offices, the candidate must have served at least one year on the Board.

In recommending a candidate to the Nominating Committee, please provide a biographical sketch of the individual and secure from her assurance of willingness to serve if nominated. Send this information to Hazel J. Peterson, Deaconess Hospital, Minneapolis 4, Minn. The Nominating Committee will submit all names suggested to the national Board for approval at their meeting in May.

Hazel J. Petersen, Chairman
Mrs. Gertrude Myers
Mrs. Ruth Dowling
Betty Lank

Mrs. Fife Retires After Twenty-one Years at University Hospitals

Mrs. Gertrude Fife tendered her resignation as director of the school of anesthesiology, University Hospitals, Cleveland, Ohio, early in March, 1945, to take effect as soon as her successor could be appointed. Mrs. Fife entered the school of anesthesia at Lakeside Hospital in 1924 and was graduated in 1925. She was appointed as a member of the staff immediately following her graduation and, in 1933, when Miss Hodgins' health forced her to retire as director, Mrs. Fife was appointed acting director of the school and named director in 1934. During 1933, while acting director, she reorganized the school, increasing the length of the course from four to eight months.

Mrs. Fife was the second president of the National Association of Nurse Anesthetists (now the American Association of Nurse Anesthetists). As president, she published the first BULLETIN, which was a report of the first annual meeting. She continued as editor of the BULLETIN and chairman of the Publishing Committee until 1944. She has been Treasurer of the Association since 1936.

Upon her retirement, the Board of Trustees of University Hospitals gave a tea in Mrs. Fife's honor. At the tea, at which 200 guests were present, the board of trustees presented her with a beautiful silver bowl.

As a token of their esteem, the alumnae of the school gave her a watch, the staff of the school a life subscription to the Reader's Digest, and the doctors of University Hospitals a diamond pin and two pieces of luggage.

Mrs. Fife's retirement from the school of anesthesiology does not mean that she is retiring from Association activities. With the loyalty and enthusiasm which has characterized her service to the AANA, she will continue as treasurer and mail should be sent to her at 2065 Adelbert Road, Cleveland 6, Ohio. At the present time she is a member of several important committees.

Miriam Shupp has been appointed as Mrs. Fife's successor. Miss Shupp was graduated from the school of anesthesia, Lakeside Hospital, and was a member of the staff in 1933-34, when Mrs. Fife was acting director. Miss Shupp was appointed chief anesthetist at Strong Memorial Hospital, Rochester, New York, in 1934, a position she held until November, 1945. She assumed the directorship of the school of anesthesiology, University Hospitals, on January 1, 1946, at which time Mrs. Fife's resignation became effective.

Annual Report of the Treasurer

To Board of Trustees of the American Association of Nurse Anesthetists

STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS—GENERAL ACCOUNT FOR THE YEAR ENDED AUGUST 31, 1945

Balance, per Audit Report, August 31, 1944		$ 994.61
RECEIPTS		
Application Fees	$ 947.70	
Examination Fees	1,980.00	
(Received for June 1945 examination—$1365)		
(Received for Nov. 1945 examination— 615)		
Dues—Individual Membership	26,627.58	
Dues—Institutional Membership	600.00	
Transferred from Savings Account No. 106581	1,000.00	
Income from Sale of Advertising	1,350.00	
Income Tax withheld	1,024.00	
Sale of Pins	236.00	
Penalty Fees	159.00	
Contributions	7.00	
Donation to Trust Fund	18.75	
Donations to Library Fund	17.00	
Donation to Educational Committee	100.00	34,067.93
		$35,062.54
DISBURSEMENTS		
United States Savings Bonds	$ 3,718.50	
Administrative, Accounting and Stenographic Service	8,222.59	
Transferred to Savings Account No. D16133	3,300.00	
Transferred to Savings Account No. 102794	2,800.00	
Transferred to Trust Fund Savings Account	536.50	
Transferred to State Associations, Individual Memberships	1,172.00	
Transferred to State Associations, Institutional Memberships	105.00	
Examination Program Expense	1,344.40	
Office Supplies and Printing	1,897.75	
Office Equipment	1,167.25	
Postage	1,076.56	
Office Rent	792.50	
Collector of Internal Revenue (Withholding Tax)	933.40	
Convention Expense	987.34	
Printing and Mailing Journal	3,768.58	
Committee Expense—Executive Committee	336.66	
—Curriculum Committee	327.65	
—Washington Committee	133.91	
—Credentials Committee	62.56	
—Educational Exhibit Committee	23.93	
—Nominating Committee	11.44	
—Educational Committee	10.75	
—Revisions Committee	9.11	
Telephone and Telegraph	252.69	
Fire Insurance	59.10	
Pins Purchased	190.88	
Repairs to Office Equipment	58.13	
Books and Periodicals	37.30	
Board of Trustees Expense	18.30	
Membership in Hospital Associations	30.00	
Miscellaneous	111.04	33,495.82
Balance, August 31, 1945		$ 1,566.72

STATEMENT OF TRUST FUND SAVINGS ACCOUNT No. 110399 FOR THE YEAR ENDED AUGUST 31, 1945

Balance, per Audit Report, August 31, 1944		$ 48.70
DEPOSITS		
Interest Earned	$ .68	
Transferred from General Account	536.50	537.18
		$585.88
WITHDRAWALS		
Transfer of Interest Earned to Trust Fund Income Savings Account No. 110398		$ 4.50
Balance, August 31, 1945		$581.38

The above balance is on deposit in Savings Account No. 110399 at the Euclid-105th Office of The Cleveland Trust Company.

STATEMENT OF TRUST FUND INCOME SAVINGS ACCOUNT No. 110398
FOR THE YEAR ENDED AUGUST 31, 1945

Balance, per Audit Report, August 31, 1944	$32.63
DEPOSITS	
Interest Earned on Trust Fund Savings Account No. 110399 transferred to this account	4.50
	$37.13
WITHDRAWALS	—0—
Balance, August 31, 1945	$37.13

The above balance is on deposit in Savings Account No. 110398 at the Euclid-105th Office of The Cleveland Trust Company.

—Gertrude Fife, Treasurer

NOTES FROM THE EXECUTIVE OFFICE

Welcome to the returning service members. It is gratifying to have many members of the Association, who have been in the service, write to the Executive Office concerning reinstatement in the Association. The Board of Trustees has ruled that service members whose dues have lapsed may be reinstated by payment of dues, without penalty.

CONVENTION

Are you planning to attend the annual convention to be held in Philadelphia, September 30-October 3? If you live west of Chicago, you will save money by buying a round-trip ticket to Chicago.

EXAMINATION

At the time of going to press 155 applicants have been approved for the third examination, to be held May 6, 1946. In addition to this number, there are 100 applications in the process of being approved.

APPROVAL UNDER G.I. BILL OF RIGHTS

The following schools have notified the Executive Office of approval under the G.I. Bill of Rights:

NORWEGIAN AMERICAN HOSPITAL, Chicago 22, Illinois.

ST. MARY OF NAZERETH HOSPITAL, Chicago 22, Illinois.

MERCY HOSPITAL, Chicago 16, Illinois.

RAVENSWOOD HOSPITAL, Chicago 40, Illinois.

WESLEY MEMORIAL HOSPITAL, Chicago 11, Illinois.

ST. FRANCIS HOSPITAL, Peoria 4, Illinois.

THE JOHNS HOPKINS HOSPITAL, Baltimore 5, Maryland.

UNIVERSITY HOSPITAL, Ann Arbor, Michigan.

GRACE HOSPITAL, Detroit 1, Michigan.

MT. CARMEL MERCY HOSPITAL, Detroit 21, Michigan.

BARNES HOSPITAL, St. Louis 10, Missouri.

LONG ISLAND COLLEGE HOSPITAL, Brooklyn, New York.

MARY IMMACULATE HOSPITAL, Jamaica, New York.

DUKE UNIVERSITY HOSPITAL, Durham, North Carolina.

UNIVERSITY HOSPITALS, Cleveland 6, Ohio.

ST. VINCENTS HOSPITAL, Portland, Oregon.

SACRED HEART HOSPITAL, Spokane 9, Washington.

MEMBERSHIP LIST

Volume II of this issue of THE JOURNAL is the membership list which is being sent to members of the Association only. Additions and corrections will be published in the August issue.

ASSOCIATION News
State and National

California . . .

A bi-monthly meeting of the California Association of Nurse Anesthetists was held November 15, 1945, at the Franklin Hospital, San Francisco. President Mrs. Mae Rowland presided. There were 24 members present.

The minutes of the last meeting were read and approved. The Welfare Committee reported the illness of two members. Correspondence received was read by the president and secretary.

A motion was made by Marie Hebert and seconded by Irene Walsh that a special meeting be held at the San Francisco Hospital on November 29th to discuss salaries. A "Salary Adjustment Committee," consisting of the following members was appointed: Martha Bichel, Chairman; Marie Hebert; Edna Peterson.

A film on "Anesthesia in Thoracic Surgery" was shown and a most interesting talk given by H. Brodie Stephens, M.D. Dr. Stephens has just returned to private practice in San Francisco after three years' service in the navy during which time he served in both theatres of war.

Martha Bichel reported on the Institute for Instructors in Anesthesiology held in Chicago last fall.

Refreshments were served following adjournment.

Michigan . . .

The February meeting of the Michigan State Association of Nurse Anesthetists was held at the Book-Cadillac Hotel on February 16, with 70 members present. The business meeting preceded the program.

Ivan B. Taylor, M.D., Professor of Anesthesiology in the Medical School of Wayne University, spoke on "Anesthesia in Thoracic Surgery."

D. J. Leithauser spoke on "Bed Confinement of only Twenty-four Hours after Surgery." Moving pictures were shown to illustrate Dr. Leithauser's talk.

A meeting of the Michigan State Association of Nurse Anesthetists will be held Saturday, May 11, at Mt. Carmel Mercy Hospital, Detroit. The afternoon meeting will commence at three o'clock and will be followed by a dinner which will be served at the hospital between five and six o'clock. Following the dinner there will be a tour of the hospital. The evening meeting will start at seven-thirty.

Minnesota . . .

The annual report of the secretary of the Minnesota Association of Nurse Anesthetists follows:

"The eleventh annual meeting of the M.A.N.A. will be held May 26th at the Lowry Hotel, St. Paul. A tentative program has been arranged. A luncheon for members will be held Sunday noon at the St. Paul Hotel. Sessions are planned for the morning and afternoon.

"Regular monthly meetings have been held on the last Tuesday of the month. In an effort to increase the attendance at the meetings and to make it easier for out of town members to attend, it was decided to hold the meetings in the afternoon and to have a luncheon precede the meeting. A review of the year's program follows:

MONTH	PLACE OF MEETING	PROGRAM	MEMBERS	VISITORS
September:	Lowry Hotel Nurses' Club Rooms	A History of the Minnesota Association of Nurse Anesthetists and Continuation Center	15	1
October:	Asbury Hospital	Report on Institute	20	2
November:	No meeting			
December:	Abbott Hospital	Film: Curare Remarks: Ralph Knight, M.D.	19	4
January:	Midway Hospital	Anesthesia Experiences in the European Theatre, John Earl, M.D.	15	2
February:	Fairview Hospital	Shock: Margaret Anderson, M.D.	20	5
March:	Swedish Hospital			
April:	St. John's Hospital			

"The average attendance for the year has been 18 members and 3 visitors.

"A bulletin was published in November, the next will be published in March.

"Two meetings of the Board of Trustees have been held.

"The time usually allotted to the Minnesota Association for the Continuation Center at the University of Minnesota will be used for courses for returning veterans.

"The secretary has sent 'Get Well' cards to seven members on behalf of the Association."

MEMBERS OF THE MINNESOTA ASSOCIATION OF NURSE ANESTHETISTS

Active	95
Inactive	6
Total Membership	101
Transfers out of state	8
Transfers to state	6
New members, by application	6
Applications rejected	1
Dues paid	95
Delinquent	4

JUNE WINQUIST, *Secretary*

New York . . .

The next annual meeting of the New York State Association of Nurse Anesthetists will be held June 10-11-12 at the Pennsylvania Hotel in New York City. The mornings will be devoted to hospital clinics and the afternoons to scientific papers. Tuesday evening, June 11, the members may attend a banquet given by The New York State Hospital Association.

An interesting and instructive program is being planned by the program committee. Members of The New York State Association of Nurse Anesthetists will, in due time receive programs by mail. Others who are interested may write for information to Mrs. Frances Hess, chairman of the Program Committee, or Mrs. Pauline E. Zawistowski, president of the New York State Association, Long Island College Hospital, Dep't. of Anesthesiology, Brooklyn 2, New York.

Oregon . . .

The Oregon Association of Nurse Anesthetists held a Christmas party on December 11, 1945, at the Graduate Home of Good Samaritan Hospital, Portland.

A short business meeting was held on January 22, 1946, at the University of Oregon Dental School, Portland. Following the meeting, Dr. Miller of the Dental School showed moving pictures which he obtained while on army assignment in Australia and the South Pacific.

A meeting of the Oregon Association of Nurse Anesthetists was held February 19, at Emanuel Hospital Nurses' Home, Portland. The meeting was called to order by the president, Mrs. Elizabeth Johnson, with 24 members present.

J. J. Enkelis, M.D., a veteran of over four years' active service in the navy, gave an interesting talk on surgery and anesthesia as practiced in the navy.

Dr. Enkelis also told of his experiences in training officers for newly commissioned ships and outfitting sickbays.

A letter from Martha Bichel, chairman of the national Committee on Public Relations, was read. This letter concerned the need for watching legislation which concerns nurse anesthetists. The Oregon association feels fortunate in having Lillian McDonald, an anesthetist and superintendent of the Salem General Hospital, assume this responsibility.

Refreshments were served after the meeting adjourned.

Pennsylvania . . .

Program details for the fourteenth annual convention of the Pennsylvania State Association of Nurse Anesthetists, to be held at the Bellevue-Stratford Hotel, Philadelphia, April 24-25, 1946, have been fully worked out. Registration of those in attendance, viewing of exhibits, and a board of director's meeting have been scheduled for Wednesday morning, April 24.

Wednesday afternoon the following technical papers will be delivered: "Introcostrin in Surgery" (with colored film) by Charles H. Mann, M.D., professional relations department of E. R. Squibb Co.; "Continuous Spinal Anesthesia," by William T. Lemmon, M.D., assistant professor of surgery, Jefferson Medical College; "Pentothal Anesthesia for Eye Surgery," by George J. Thomas, M.D., assistant professor of surgery (anesthesiology), University of Pittsburgh School of Medicine.

On Thursday morning, there will be a clinic at the Jewish Hospital, Philadelphia. Thursday afternoon's session will be headed by an address titled, "Flying Death," by Sister M. Peter, S.M., R.N., student anesthetist at the Jewish Hospital. This will be followed by a panel discussion, the coordinator being E. K. Hultzman, M.D., director of the school of anesthesia of the Jewish Hospital, and participants including Hilda R. Salomon, R.N., Jewish Hospital, and George J. Thomas, M.D., director of the school of anesthesia, St. Francis Hospital.

The business meeting will conclude the two-day meeting. Committee and officer reports will be given, with Helen C. Shaughnessy, president of the Pennsylvania State Association of Nurse Anesthetists, presiding.

Texas . . .

On March 22-23, 1946, the tenth annual convention of the Texas Association of Nurse Anesthetists was held at the Hotel Texas, Fort Worth.

Professional features of the three-day program included a round table conducted by Marvella Ann Cable; a paper on "Endotracheal Anesthesia" by Katy Pace, Harris Clinic; a paper on "Chest Anesthesia" by Earl F. Weir, M.D., anesthesiologist at Baylor University Hospital; a paper on "Anesthesia for Orthopedic Surgery" by Louis Levy, M.D.; a report of army anesthesia by Grace Warren who served in the Pacific theatre and Vanda Kibler who served in the European theatre; a paper on "Pentothal Sodium and Curare" by Mary J. White, St. Joseph's Hospital.

The business meeting was held under the presiding gavel of Winifred Hackworth, president of the group. A report of the Institute held in Chicago last fall was given by Onie Joyce Lamb, Virginia Futch, and Elsie A. Smith.

Social events included the banquet at which James A. Hamilton, FACHA, New Haven, Connecticut, hospital consultant, and professor of Hospital Administration at Yale University, was the featured speaker. The Fort Worth Anesthetists were hostesses at a luncheon held Saturday noon, and the Ohio Chemical Company was host at a dinner held Saturday evening.

SCHOOLS OF ANESTHESIOLOGY ASSEMBLY

A program for instructors will be conducted at the two-day session of a School of Anesthesiology Assembly which is scheduled for Saturday and Sunday, September 28 and 29, 1946, in Philadelphia, Pennsylvania, Hotel Philadelphian. The School of Anesthesiology Assembly is an outgrowth of the Institute for Instructors of Anesthesiology held in Chicago last October. Future Institutes will be held for nurse anesthetists.

The Philadelphia dates were arranged to make it possible for those connected with schools to attend both the school assembly meeting and the annual convention of the American Association of Nurse Anesthetists.

At the present time, the program is in its tentative stage. School directors and instructors are asked to aid in selecting topics and speakers. The final program will be published in the August issue of THE JOURNAL.

All Association members are welcome at the two-day Assembly and instructors and directors of schools are urged to attend and to participate in the program. The purpose of this meeting is to further the unification of our efforts toward standardizing the teaching and curriculums in the schools.

For further information write: Esther Myers-Stephenson, Chairman, 7 Wolcott Road, Winchester, Massachusetts.

COMMITTEES FOR 1945-1946

Executive Committee
HAZEL BLANCHARD—*Chairman*
MARGARET SULLIVAN
PALMA ANDERSON
MRS. MYRA VAN ARSDALE

Committee on Curriculum
ALMA WEBB—*Chairman*
JANET MCMAHON
MRS. ELETTA ENGUM SILVER

Committee on Credentials
LUCY RICHARDS—*Chairman*
MRS. MYRA VAN ARSDALE
MRS. ANNA R. DICKERSON

Committee on Education
HELEN LAMB—*Chairman*
ALMA WEBB
MABEL COURTNEY
MARIE N. BADER
JUNE C. ROBERTS
MRS. GERTRUDE FIFE
MIRIAM SHUPP (ex-officio)

Committee on Educational Exhibits
MARIE N. BADER—*Chairman*
SR. M. LASALETTE
HELEN LAMB

Committee on Examinations
MIRIAM SHUPP—*Chairman*
MRS. ESTHER MYERS STEPHENSON
SR. RUDOLPHA
MRS. ELIZABETH COLEMAN BLANCHARD
JANET MCMAHON
MRS. MARTHA B. LUNDGAARD
MARY SNIVELY

Committee on Finance
HAZEL BLANCHARD—*Chairman*
MRS. GERTRUDE FIFE
MRS. MYRA VAN ARSDALE
ANNE M. CAMPBELL (ex-officio)

Committee on Nominations
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MRS. GERTRUDE MYERS
HELEN PATTEN
MRS. RUTH C. DOWLING
BETTY LANK

Committee on Publications
EDITH-HELEN HOLMES—*Chairman*
MRS. OPAL SCHRAM
MRS. BERENICE ELLIOTT

Committee on Public Relations
MARTHA BICHEL—*Chairman*

Committee on Revisions of By-Laws
PALMA ANDERSON—*Chairman*
RUTH BERGMAN
Committee on Trust Fund
MRS. MYRA VAN ARSDALE—*Chairman*
MRS. GERTRUDE FIFE
Committee on Convention Arrangements
HILDA SALOMON—*Chairman*
MRS. MARIAN R. BRIGGS
MRS. MARIENNE MCAULIFFE
HELEN SHAUGHNESSY
Committee on Program
HILDA SALOMON—*Chairman*
MRS. ANN DECKER
MRS. GERTRUDE TROSTER
Committee on Postwar Planning
MRS. MARION WARK THOMAS—*Chairman*
MAJOR EDITH AYNES
MABEL COURTNEY
MRS. ESTHER MYERS STEPHENSON
JUNE ROBERTS
Committee on Approval of Schools
MRS. ESTHER MYERS-STEPHENSON—*Chairman for AANA*
MRS. GERTRUDE FIFE
Schools of Anesthesiology Assembly
MRS. ESTHER MYERS-STEPHENSON—*Director*

NEW ENGLAND ASSEMBLY OF NURSE ANESTHETISTS

The opening session of the New England Assembly of Nurse Anesthetists was held March 12 at the Statler Hotel, Boston, as a section of the New England Hospital Assembly. Interest in the session was shown by the fact that there were present at this meeting approximately 25 members of the New England Hospital Assembly, 50 nurse anesthetists from the New England States and a number of non-member anesthetists from the military service.

"Interdepartmental Relationships" was the subject of a panel discussion. The papers presented and opinions discussed were forward-looking, constructive and thought-provoking.

Those attending the Assembly were invited to attend the banquet of the New England Hospital Assembly. The speaker of the evening was Karl T. Compton, president of the Massachusetts Institute of Technology, Boston. Dr. Compton spoke on "Some Contributions from the Sister Sciences." He expressed the hope that the knowledge gained by scientists in the development of the atomic bomb may open a new era in medicine and may probably form the most promising basis for the attack on cancer.

The morning of March 13 was devoted to visits to Anesthesia Departments in Boston Hospitals. At the afternoon session, held in Peter Bent Brigham Hospital, Robert E. Gross, M.D., the associate professor of pediatric surgery, Children's Hospital, and associate in surgery, Harvard Medical School, gave an illustrated lecture on "Thoracic Surgery." A motion picture on "Curare (Intocostrin)" was shown by Louis H. Wright, M.D., director of the department of anesthesia, Squibb and Company.

Anne M. Campbell, executive secretary of the American Association of Nurse Anesthetists, brought greetings from the president of the National association. She discussed how the members may serve the National association and what the National association is doing for the members.

After a delightful tea, given by the Massachusetts Association of Nurse Anesthetists, the organizational meeting of the New England Assembly of Nurse Anesthetists was held. Governing rules and regulations, proposed by the Assembly, were adopted, subject to approval by the Committee on Revisions of the American Association of Nurse Anesthetists.

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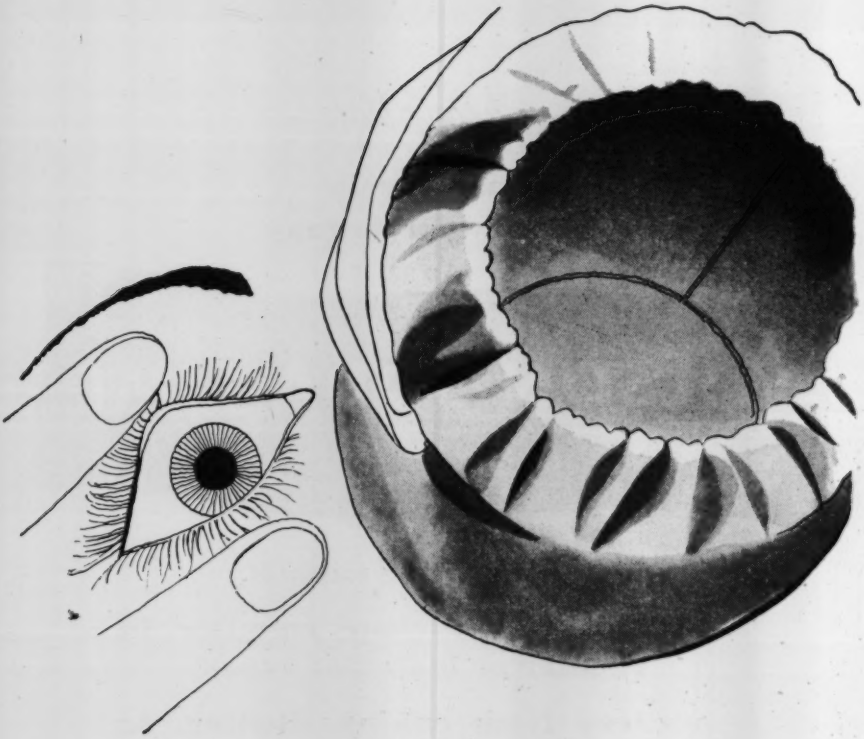

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SQUIBB Ether

and the full range of Squibb Anesthetic Agents

MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858

How Oxygen Rental Services Help You and Your Community

Oxygen rental companies, which supply approved oxygen therapy equipment, U.S.P. oxygen, and the services of competent technicians, have been established in many communities. They can render a service valuable to:

Physicians for their patients who require oxygen at home either during acute respiratory or cardiac emergencies, or for many chronic conditions.

Hospitals by making available extra equipment at times when all hospital-owned equipment is in use. Furthermore, rental services make unnecessary the loaning of hospital equipment to patients for home use.

Nurses on private home cases in helping them with the mechanical details of setting up and operating oxygen equipment in the home.

Public Health Officers when disaster strikes and oxygen and equipment are urgently needed.

Rental services using Linde Oxygen U.S.P. are regularly supplied by Linde with the latest authoritative information on oxygen therapy. This helps them in providing consistently effective service to the community.

LINDE OXYGEN U.S.P.

OXYGEN THERAPY DEPARTMENT

THE LINDE AIR PRODUCTS COMPANY

Unit of Union Carbide and Carbon Corporation

30 E. 42nd St., New York 17, N. Y. UCC Offices in Other Principal Cities

In Canada: Dominion Oxygen Company, Limited, Toronto

The word "Linde" is a trade-mark of The Linde Air Products Company.